Autumn Test 1

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of fractions with the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Missing number calculations with all four operations

Review: Formal written method for long multiplication of up to three digits by a two-digit number

A teaching suggestion

Step 1 Display:

$$\begin{array}{r} 478 \\ \times\ 56 \\ \hline \end{array}$$

Explain that the children are going to recap the formal method for long multiplication which is like doing three calculations but only having to write one!

Step 2 Demonstrate that you start by multiplying the top number by the ones in the bottom number for the first calculation, so $6 \times 478 = 2868$.

$$\begin{array}{r} 478 \\ \times\ 56 \\ \hline 2868 \\ {\scriptstyle 4\ 4} \end{array}$$

Step 3 Explain that the second calculation involves multiplying the top number by the tens in the second number and so the answer ends with a zero. Emphasise that you are multiplying by 50 (not 5), so $478 \times 50 = 23\,900$.

$$\begin{array}{r} 478 \\ \times\ 56 \\ \hline 2868 \\ 23900 \\ {\scriptstyle 3\ 4} \end{array}$$

Step 4 Finally, demonstrate the third calculation where the answers to the other two parts are added together, so $2868 + 23\,900 = 26\,768$.

$$\begin{array}{r} 478 \\ \times\ 56 \\ \hline 2868 \\ +\ 23900 \\ \hline 26768 \\ {\scriptstyle 1} \end{array}$$

Step 5 Work through lots of examples with the children, and then encourage them to work with a partner before trying similar calculations independently.

Question number	Question	Answer	Marks	Related test
1	$1 \times 0 = \square$	0	1	Y4 Autumn Test 4
2	$\square = 1 - 0.2$	0.8	1	Y5 Summer Test 4
3	$143 \div 1 = \square$	143	1	Y4 Autumn Test 6
4	$1200 \times 5 = \square$	6000	1	Y4 Summer Test 5
5	$8^2 = \square$	64	1	Y5 Autumn Test 4
6	$206 \times 1 = \square$	206	1	Y4 Autumn Test 6
7	$3^2 = \square$	9	1	Y5 Autumn Test 4
8	$\square = 1^3$	1	1	Y5 Spring Test 1
9	$\frac{1}{6} + \frac{1}{3} = \square$	$\frac{3}{6}$ (or equiv)	1	Y5 Spring Test 6
10	$51 \times 1000 = \square$	51 000	1	Y5 Autumn Test 5
11	$30 = \square \times 5$	6	1	Y4 Autumn Test 3
12	$\square = 7.3 \times 10$	73	1	Y5 Spring Test 2
13	$3900 \div \square = 39$	100	1	Y5 Autumn Test 5, Y4 Autumn Test 3
14	$7 = 56 \div \square$	8	1	Y4 Autumn Test 3
15	$28.4 \div 10 = \square$	2.84	1	Y5 Spring Test 2
16	$603 - 247 = \square$	356	1	Y5 Autumn Test 3
17	$7529 \div 2 = \square$	3764 r1	1	Y5 Autumn Test 6
18	$7152 \times 5 = \square$	35 760	1	Y5 Spring Test 3
19	$5396 \div 4 = \square$	1349	1	Y5 Spring Test 5
20	$342 \times 21 = \square$	7182	2*	Y6 Autumn Test 1
21	$\square + 4293 = 7142$	2849	1	Y4 Spring Test 3, Y3 Autumn Test 1
22	$6258 = 7 \times \square$	894	1	Y5 Spring Test 5, Y4 Autumn Test 3
23	$\square \div 9 = 235$	2115	1	Y5 Spring Test 3, Y4 Autumn Test 3
24	$638 + 9 + 72\,364 = \square$	73 011	1	Y5 Spring Test 4
25	$322 \times 31 = \square$	9982	2*	Y6 Autumn Test 1
26	$314 = 700 - \square$	386	1	Y5 Autumn Test 3, Y3 Autumn Test 1
27	$426 \times 83 = \square$	35 358	2*	Y6 Autumn Test 1
	Total marks		**30**	

* award 1 mark if there is one error in the working

Autumn Test 1

Name: ..... **Class:** ..... **Date:** .....

1	$1 \times 0 =$ ☐	☐
2	☐ $= 1 - 0.2$	☐
3	$143 \div 1 =$ ☐	☐
4	$1200 \times 5 =$ ☐	☐
5	$8^2 =$ ☐	☐
6	$206 \times 1 =$ ☐	☐
7	$3^2 =$ ☐	☐
8	☐ $= 1^3$	☐
9	$\frac{1}{6} + \frac{1}{3} =$ ☐	☐
10	$51 \times 1000 =$ ☐	☐
11	$30 =$ ☐ $\times 5$	☐
12	☐ $= 7.3 \times 10$	☐
13	$3900 \div$ ☐ $= 39$	☐
14	$7 = 56 \div$ ☐	☐
15	$28.4 \div 10 =$ ☐	☐
16	$603 - 247 =$ ☐	☐

Autumn Test 1 (continued)

17 $2 \overline{)7529}$

18
$$\begin{array}{r} 7152 \\ \times \quad 5 \\ \hline \end{array}$$

19 $4 \overline{)5396}$

20
$$\begin{array}{r} 342 \\ \times \quad 21 \\ \hline \end{array}$$
(2 marks)

21 $\square + 4293 = 7142$

22 $6258 = 7 \times \square$

23 $\square \div 9 = 235$

24 $638 + 9 + 72\,364 = \square$

25
$$\begin{array}{r} 322 \\ \times \quad 31 \\ \hline \end{array}$$
(2 marks)

26 $314 = 700 - \square$

27
$$\begin{array}{r} 426 \\ \times \quad 83 \\ \hline \end{array}$$
(2 marks)

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	24												
– with zeros	16	26											
÷ or x by 10, 100 or 1000	10	12	13	15									
Long x	20	25	27										
Fractions	9												
Missing numbers	11	13	14	21	22	23	26						
+	9	24											
–	2	16	21	26									
x	1	4	5	6	7	8	10	12	18	20	23	25	27
÷	3	11	13	14	15	17	19	22					

Autumn Test 2

Teacher guidance

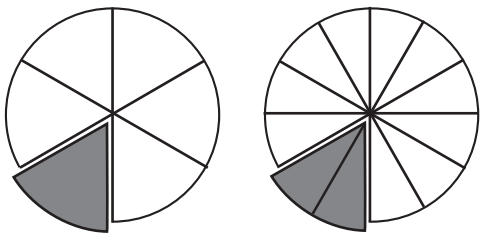
Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of fractions with the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication of up to three digits by a two-digit number
- Missing number calculations with all four operations

Review: Addition and subtraction of fractions with multiples of the same denominator, giving the answer as a mixed number

A teaching suggestion

Step 1 Cut one circle into sixths and another into twelfths.



Compare the segments, demonstrating that two twelfths are the same as one sixth, four twelfths are the same as two sixths, and so on.

Step 2 Hold up various sixth fractions and, on an agreed signal, ask the children to call out how many twelfths they represent.

Step 3 When the children are confident, display:

$$\frac{1}{6} + \frac{11}{12} =$$

Step 4 Hold one sixth in one hand and eleven twelfths in the other. Discuss the problem of adding them as they are not the same. Give the children an opportunity to discuss how to solve the problem. Agree that the one sixth can be changed for two twelfths.

$$\frac{1}{6} + \frac{11}{12} = \frac{2}{12} + \frac{11}{12} =$$

Step 5 The twelfths are now straightforward to add, giving $\frac{13}{12}$. Exchange $\frac{12}{12}$ for 1, giving $1\frac{1}{12}$.

Emphasise that the answer should be written as a mixed number, not an improper fraction.

Step 6 Repeat lots of addition and subtraction examples together. Allow the children to work with a partner before working independently.

Question number	Question	Answer	Marks	Related test
1	$\square = 10 \times 0$	0	1	Y4 Autumn Test 4
2	$72 \div 1 = \square$	72	1	Y4 Autumn Test 6
3	$7^2 = \square$	49	1	Y5 Autumn Test 4
4	$1 = 0.6 + \square$	0.4	1	Y5 Summer Test 4
5	$8 \times 600 = \square$	4800	1	Y4 Summer Test 5
6	$3^3 = \square$	27	1	Y5 Spring Test 1
7	$\frac{3}{7} + \frac{12}{7} = \square$	$2\frac{1}{7}$ (or equiv)	1	Y6 Autumn Test 2
8	$\square^2 = 121$	11	1	Y5 Autumn Test 4
9	$40 \times 10 = \square$	400	1	Y5 Autumn Test 5
10	$63 = \square \times 9$	7	1	Y4 Autumn Test 3, Y4 Spring Test 2
11	$\frac{1}{2} - \frac{1}{4} = \square$	$\frac{1}{4}$ (or equiv)	1	Y5 Spring Test 6
12	$\square = 9.32 \times 100$	932	1	Y5 Spring Test 2
13	$\frac{5}{9} + \frac{2}{3} = \square$	$1\frac{2}{9}$ (or equiv)	1	Y6 Autumn Test 2
14	$20 \times \square = 2000$	100	1	Y5 Autumn Test 5, Y4 Autumn Test 3
15	$29.1 \div 10 = \square$	2.91	1	Y5 Spring Test 2
16	$36 \div \square = 9$	4	1	Y4 Autumn Test 3, Y4 Spring Test 2
17	$\frac{15}{4} - \frac{6}{8} = \square$	3 (or equiv)	1	Y6 Autumn Test 2
18	$8420 \div 5 = \square$	1684	1	Y5 Spring Test 5
19	$\square = 500 - 371$	129	1	Y5 Autumn Test 3
20	$2374 \times 7 = \square$	16 618	1	Y5 Spring Test 3
21	$836 \times 25 = \square$	20 900	2*	Y6 Autumn Test 1
22	$4 \times \square = 9324$	2331	1	Y5 Spring Test 5, Y4 Autumn Test 3
23	$1475 \div 6 = \square$	245 r5	1	Y5 Autumn Test 6
24	$801 - \square = 428$	373	1	Y5 Autumn Test 3, Y3 Autumn Test 1
25	$\square \div 614 = 7$	4298	1	Y5 Spring Test 3, Y4 Autumn Test 3
26	$66 + 78\,628 + 519 = \square$	79 213	1	Y5 Spring Test 4
27	$4888 = \square - 3741$	8629	1	Y4 Spring Test 1, Y3 Autumn Test 1
28	$936 \times 75 = \square$	70 200	2*	Y6 Autumn Test 1
		Total marks	**30**	

* award 1 mark if there is one error in the working

Autumn Test 2

Name: ..... **Class:** ..... **Date:** .....

1	$\square = 10 \times 0$	☐
2	$72 \div 1 = \square$	☐
3	$7^2 = \square$	☐
4	$1 = 0.6 + \square$	☐
5	$8 \times 600 = \square$	☐
6	$3^3 = \square$	☐
7	$\frac{3}{7} + \frac{12}{7} = \square$	☐
8	$\square^2 = 121$	☐
9	$40 \times 10 = \square$	☐
10	$63 = \square \times 9$	☐
11	$\frac{1}{2} - \frac{1}{4} = \square$	☐
12	$\square = 9.32 \times 100$	☐
13	$\frac{5}{9} + \frac{2}{3} = \square$	☐
14	$20 \times \square = 2000$	☐
15	$29.1 \div 10 = \square$	☐
16	$36 \div \square = 9$	☐

Autumn Test 2 (continued)

17 $\frac{15}{4} - \frac{6}{8} =$ ☐ ☐

18 $8420 \div 5 =$ ☐ ☐

19 ☐ $= 500 - 371$ ☐

20
$$\begin{array}{r} 2374 \\ \times \quad 7 \\ \hline \end{array}$$
☐

21
$$\begin{array}{r} 836 \\ \times \quad 25 \\ \hline \end{array}$$
(2 marks) ☐

22 $4 \times$ ☐ $= 9324$ ☐

23 $6 \overline{)1475}$ ☐

24 $801 -$ ☐ $= 428$ ☐

25 ☐ $\div 614 = 7$ ☐

26 $66 + 78\,628 + 519 =$ ☐ ☐

27 $4888 =$ ☐ $- 3741$ ☐

28
$$\begin{array}{r} 936 \\ \times \quad 75 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	26									
– with zeros	19	24								
÷ or x by 10, 100 or 1000	1	9	12	14	15					
Long x	21	28								
Fractions	7	11	13	17						
Missing numbers	4	8	10	14	16	22	24	25	27	
+	7	13	26	27						
–	4	11	17	19	24					
x	1	3	5	6	9	12	20	21	25	28
÷	2	8	10	14	15	16	18	22	23	

Autumn Test 3

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication of up to three digits by a two-digit number
- Missing number calculations with all four operations

Review: Finding fractions of amounts

A teaching suggestion

Step 1 Show the children a circle and tell them you are going to cut or colour five sixths of the circle. Demonstrate how to start by dividing the circle into sixths, and then cut or colour five of the sixths.

Step 2 Repeat with other fractions (e.g. seven tenths).

Step 3 When the children are confident, use a number instead of a shape. To find five sixths of 54, start by dividing 54 into sixths: $54 \div 6 = 9$, so each sixth is worth 9 and we want five of them. Since $9 \times 5 = 45$, five sixths of 54 is 45.

Step 4 Work through lots of examples together until the children understand the process.

Step 5 Introduce the chant: 'Divide by the bottom and times by the top!'. This is a good process aid to use once the children fully understand what is happening in the calculation.

Step 6 Complete lots of examples with the children. Let them work with a partner before trying the work independently.

Question number	Question	Answer	Marks	Related test
1	$59 \times 1 = \square$	59	1	Y4 Autumn Test 6
2	$1 = \square + 0.3$	0.7	1	Y5 Summer Test 4
3	$10^2 = \square$	100	1	Y5 Autumn Test 4
4	$700 \times 4 = \square$	2800	1	Y4 Summer Test 5
5	$\square^2 = 81$	9	1	Y5 Autumn Test 4
6	$50 \times 100 = \square$	5000	1	Y5 Autumn Test 5
7	$\frac{15}{5} - \frac{3}{5} = \square$	$2\frac{2}{5}$ (or equiv)	1	Y6 Autumn Test 2
8	$\square \div 9 = 6$	54	1	Y4 Autumn Test 3, Y4 Spring Tests 2 and 4
9	$\frac{6}{10} + \frac{2}{5} = \square$	1 (or equiv)	1	Y5 Spring Test 6
10	$640 = 6400 \div \square$	10	1	Y5 Autumn Test 5, Y4 Autumn Test 3
11	$\frac{2}{5}$ of $25 = \square$	10	1	Y6 Autumn Test 3
12	$\square = 5^3$	125	1	Y5 Spring Test 1
13	$13.4 \div 100 = \square$	0.134	1	Y5 Spring Test 2
14	$4016 - 1238 = \square$	2778	1	Y5 Autumn Test 3
15	$\frac{2}{5} + \frac{7}{10} = \square$	$1\frac{1}{10}$ (or equiv)	1	Y6 Autumn Test 2
16	$\square = 68.2 \times 1000$	68 200	1	Y5 Spring Test 2
17	$\frac{5}{7}$ of $14 = \square$	10	1	Y6 Autumn Test 3
18	$8 \times \square = 240$	30	1	Y4 Autumn Test 3, Y3 Spring Test 2
19	$4368 \div 6 = \square$	728	1	Y5 Spring Test 5
20	$\frac{3}{10}$ of $50 = \square$	15	1	Y6 Autumn Test 3
21	$605 - \square = 319$	286	1	Y5 Autumn Test 3, Y3 Autumn Test 1
22	$378 \times 25 = \square$	9450	2*	Y6 Autumn Test 1
23	$6925 \times 4 = \square$	27 700	1	Y5 Spring Test 3
24	$7518 \div 9 = \square$	835 r3	1	Y5 Autumn Test 6
25	$2690 = \square \times 5$	538	1	Y5 Spring Test 5, Y4 Autumn Test 3
26	$\square = 986\,173 - 76\,328$	909 845	1	Y5 Spring Test 4
27	$\square \div 3 = 2463$	7389	1	Y5 Spring Test 3, Y4 Autumn Test 3
28	$796 \times 68 = \square$	54 128	2*	Y6 Autumn Test 1
	Total marks		**30**	

* award 1 mark if there is one error in the working

Autumn Test 3

Name: ..... **Class:** ..... **Date:** .....

1	$59 \times 1 =$ ☐	☐
2	$1 =$ ☐ $+ 0.3$	☐
3	$10^2 =$ ☐	☐
4	$700 \times 4 =$ ☐	☐
5	☐ $^2 = 81$	☐
6	$50 \times 100 =$ ☐	☐
7	$\frac{15}{5} - \frac{3}{5} =$ ☐	☐
8	☐ $\div 9 = 6$	☐
9	$\frac{6}{10} + \frac{2}{5} =$ ☐	☐
10	$640 = 6400 \div$ ☐	☐
11	$\frac{2}{5}$ of $25 =$ ☐	☐
12	☐ $= 5^3$	☐
13	$13.4 \div 100 =$ ☐	☐
14	$4016 - 1238 =$ ☐	☐
15	$\frac{2}{5} + \frac{7}{10} =$ ☐	☐
16	☐ $= 68.2 \times 1000$	☐

Autumn Test 3 (continued)

17 $\frac{5}{7}$ of 14 = ☐ ☐

18 8 × ☐ = 240 ☐

19 6 ⟌ 4368 ☐

20 $\frac{3}{10}$ of 50 = ☐

21 605 − ☐ = 319 ☐

22
$$\begin{array}{r} 378 \\ \times\ 25 \\ \hline \end{array}$$
(2 marks) ☐

23
$$\begin{array}{r} 6925 \\ \times\ 4 \\ \hline \end{array}$$
☐

24 9 ⟌ 7518 ☐

25 2690 = ☐ × 5 ☐

26 ☐ = 986 173 − 76 328 ☐

27 ☐ ÷ 3 = 2463 ☐

28
$$\begin{array}{r} 796 \\ \times\ 68 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	26												
– with zeros	14	21											
÷ or x by 10, 100 or 1000	6	10	13	16									
Long x	22	28											
Fractions	7	9	11	15	17	20							
Missing numbers	2	5	8	10	18	21	25	27					
+	9	15											
–	2	7	14	21	26								
x	1	3	4	6	8	11	12	16	17	20	22	23	27	28
÷	5	10	11	13	17	18	19	20	24	25				

Autumn Test 4

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Square and cube numbers
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication of up to three digits by a two-digit number
- Finding fractions of amounts
- Missing number calculations with all four operations

Review: Balanced calculations

A teaching suggestion

Step 1 Discuss the meaning of the = sign. Establish that whatever is on one side of the sign needs to be equal to whatever is on the other side. Show the children a pair of balance scales and demonstrate by getting five identical objects and putting three on one side and two on the other. The scales are not balanced; they are not equal.

Step 2 Display $7 \times 6 = 11 + \square$. Clearly 7×6 does not equal 11, so this calculation does not yet balance. Something needs to be done to the 11. Ask the children to solve the problem, and then display the completed sum $7 \times 6 = 11 + 31$.

Step 3 Complete several examples together and then start to move the position of the missing number. The position that causes most errors is $32 \div 8 = \square \times 2$. Explain that people who do not understand these calculations put $32 \div 8 = 4 \times 2$. Ask the children to spot the error and to explain why it has happened.

Step 4 Solve together $32 \div 8 = \square \times 2$. Since $32 \div 8 = 4$, then $\square \times 2$ must also equal 4, so the missing number is 2.

Step 5 Work through lots of examples with the children, and then let them work with a partner before trying the calculations independently.

Question number	Question	Answer	Marks	Related test
1	$3 + \square = 6 \times 2$	9	1	Y6 Autumn Test 4
2	$\square = 39 \times 100$	3900	1	Y5 Autumn Test 5
3	$1 - 0.5 = \square$	0.5	1	Y5 Summer Test 4
4	$12^2 = \square$	144	1	Y5 Autumn Test 4
5	$\frac{8}{5} + \frac{4}{5} = \square$	$2\frac{2}{5}$ (or equiv)	1	Y6 Autumn Test 2
6	$5000 \div 10 = \square$	500	1	Y5 Autumn Test 5
7	$8 = 72 \div \square$	9	1	Y4 Autumn Test 3, Y3 Summer Test 3
8	$\frac{3}{4} - \frac{3}{8} = \square$	$\frac{3}{8}$ (or equiv)	1	Y5 Spring Test 6
9	$6.2 \times 100 = \square$	620	1	Y5 Spring Test 2
10	$16 + 2 = 3 \times \square$	6	1	Y6 Autumn Test 4
11	$10^3 = \square$	1000	1	Y5 Spring Test 1
12	$\square = \frac{4}{9}$ of 18	8	1	Y6 Autumn Test 3
13	$6423.6 \div 1000 = \square$	6.4236	1	Y5 Spring Test 2
14	$\frac{7}{3} - \frac{1}{6} = \square$	$2\frac{1}{6}$ (or equiv)	1	Y6 Autumn Test 2
15	$3 \times 5 = \square - 5$	20	1	Y6 Autumn Test 4
16	$\frac{3}{7}$ of $21 = \square$	9	1	Y6 Autumn Test 3
17	$5022 - 3045 = \square$	1977	1	Y5 Autumn Test 3
18	$150 = \square \times 25$	6	1	Y4 Autumn Test 3
19	$12 + \square = 19 - 2$	5	1	Y6 Autumn Test 4
20	$4787 \div 3 = \square$	1595 r2	1	Y5 Autumn Test 6
21	$657 \times 93 = \square$	61 101	2*	Y6 Autumn Test 1
22	$400 - \square = 288$	112	1	Y5 Autumn Test 3, Y3 Autumn Test 1
23	$9232 \div 8 = \square$	1154	1	Y5 Spring Test 5
24	$3816 \times 8 = \square$	30 528	1	Y5 Spring Test 3
25	$5676 = 2 \times \square$	2838	1	Y5 Spring Test 5, Y4 Autumn Test 3
26	$\square \div 147 = 9$	1323	1	Y5 Spring Test 3, Y4 Autumn Test 3
27	$613 + 28 + 78\,316 = \square$	78 957	1	Y5 Spring Test 4
28	$762 \times 48 = \square$	36 576	2*	Y6 Autumn Test 1
		Total marks	**30**	

* award 1 mark if there is one error in the working

Autumn Test 4

Name: ..... **Class:** ..... **Date:** .....

1	$3 + \square = 6 \times 2$	☐
2	$\square = 39 \times 100$	☐
3	$1 - 0.5 = \square$	☐
4	$12^2 = \square$	☐
5	$\frac{8}{5} + \frac{4}{5} = \square$	☐
6	$5000 \div 10 = \square$	☐
7	$8 = 72 \div \square$	☐
8	$\frac{3}{4} - \frac{3}{8} = \square$	☐
9	$6.2 \times 100 = \square$	☐
10	$16 + 2 = 3 \times \square$	☐
11	$10^3 = \square$	☐
12	$\square = \frac{4}{9}$ of 18	☐
13	$6423.6 \div 1000 = \square$	☐
14	$\frac{7}{3} - \frac{1}{6} = \square$	☐
15	$3 \times 5 = \square - 5$	☐
16	$\frac{3}{7}$ of $21 = \square$	☐

Autumn Test 4 (continued)

17 $5022 - 3045 = \square$ ☐

18 $150 = \square \times 25$ ☐

19 $12 + \square = 19 - 2$ ☐

20 $3 \overline{)4787}$ ☐

21
$$\begin{array}{r} 657 \\ \times\ 93 \\ \hline \end{array}$$
(2 marks) ☐

22 $400 - \square = 288$ ☐

23 $8 \overline{)9232}$ ☐

24
$$\begin{array}{r} 3816 \\ \times\ 8 \\ \hline \end{array}$$
☐

25 $5676 = 2 \times \square$ ☐

26 $\square \div 147 = 9$ ☐

27 $613 + 28 + 78316 = \square$ ☐

28
$$\begin{array}{r} 762 \\ \times\ 48 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	27										
– with zeros	17	22									
÷ or x by 10, 100 or 1000	2	6	9	13							
Long x	21	28									
Fractions	5	8	12	14	16						
Missing numbers	1	7	10	15	18	19	22	25	26		
+	5	10	15	27							
–	1	3	8	14	17	19	22				
x	1	2	4	9	11	12	15	16	21	24	26	28
÷	6	7	10	12	13	16	18	20	23	25		

Autumn Test 5

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication of up to three digits by a two-digit number
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations

Review: Addition and subtraction of whole numbers and mixed decimals

A teaching suggestion

Step 1 Review the addition of two whole numbers with a different number of digits. Establish that the ones need to be added together, then the tens and so on, so the numbers need to be in the correct columns. For example:

$$\begin{array}{r} 794 \\ +\,84566 \\ \hline \\ \hline \end{array}$$

Step 2 Display 45.75 + 8.9 and discuss how this needs to be set out. Establish that the tenths and ones need to be added together, so the numbers need to be in the correct columns, and write this up.

$$\begin{array}{r} 45.75 \\ +\;\;8.9 \\ \hline \\ \hline \end{array}$$

Step 3 Note how the decimal points are lined up. To avoid confusion, fill in the gaps with zeros.

$$\begin{array}{r} 45.75 \\ +\;08.90 \\ \hline \\ \hline \end{array}$$

Step 4 Work through the calculation, emphasising that you start at the right and work to the left. Remind the children that, when numbers are greater than one digit, the number is written with the first digit in the next column so it still reads as the same number. Display the finished calculation.

$$\begin{array}{r} 45.75 \\ +\;08.90 \\ \hline 54.65 \\ \;\;1\;\;1 \end{array}$$

Step 5 Work through lots of examples with the children, and then allow them to work with a partner before trying the calculations independently.

Question number	Question	Answer	Marks	Related test
1	$\square = 20 \times 0$	0	1	Y4 Autumn Test 4
2	$2^2 = \square$	4	1	Y5 Autumn Test 4
3	$\square + 0.8 = 1$	0.2	1	Y5 Summer Test 4
4	$400 \div 10 = \square$	40	1	Y5 Autumn Test 5
5	$36 = \square^2$	6	1	Y5 Autumn Test 4
6	$5 = \square \div 8$	40	1	Y4 Autumn Test 3, Y3 Summer Test 3
7	$60 \times \square = 6000$	100	1	Y5 Autumn Test 5, Y4 Autumn Test 3
8	$89.32 \times 10 = \square$	893.2	1	Y5 Spring Test 2
9	$\square = \frac{2}{3}$ of 18	12	1	Y6 Autumn Test 3
10	$2 \times \square = 14 - 2$	6	1	Y6 Autumn Test 4
11	$6356 \div 8 = \square$	794 r4	1	Y5 Autumn Test 6
12	$27 = \square^3$	3	1	Y5 Spring Test 1
13	$\frac{5}{8} + \frac{1}{2} = \square$	$1\frac{1}{8}$ (or equiv)	1	Y6 Autumn Test 2
14	$\square = 700 - 524$	176	1	Y5 Autumn Test 3
15	$\frac{5}{7} + \frac{9}{14} = \square$	$1\frac{5}{14}$ (or equiv)	1	Y6 Autumn Test 2
16	$\frac{7}{10}$ of $40 = \square$	28	1	Y6 Autumn Test 3
17	$\square - 4 = 5 \times 5$	29	1	Y6 Autumn Test 4
18	$73.4 \div 100 = \square$	0.734	1	Y5 Spring Test 2
19	$2493 \times 6 = \square$	14 958	1	Y5 Spring Test 3
20	$7172 \div 4 = \square$	1793	1	Y5 Spring Test 5
21	$3.42 + 46.9 = \square$	50.32	1	Y6 Autumn Test 5
22	$841 \times 16 = \square$	13 456	2*	Y6 Autumn Test 1
23	$\square = 23.28 - 7.9$	15.38	1	Y6 Autumn Test 5
24	$7062 - \square = 5183$	1879	1	Y5 Autumn Test 3, Y3 Autumn Test 1
25	$4131 = \square \times 3$	1377	1	Y5 Spring Test 5, Y4 Autumn Test 3
26	$5358 \div \square = 2$	2679	1	Y5 Spring Test 5, Y4 Autumn Test 3
27	$752\,684 + 379 + 58\,362 = \square$	811 425	1	Y5 Spring Test 4
28	$683 \times 76 = \square$	51 908	2*	Y6 Autumn Test 1
		Total marks	**30**	

* award 1 mark if there is one error in the working

Autumn Test 5

Name: ..... **Class:** ..... **Date:** .....

1 $\square = 20 \times 0$ ☐

2 $2^2 = \square$ ☐

3 $\square + 0.8 = 1$ ☐

4 $400 \div 10 = \square$ ☐

5 $36 = \square^2$ ☐

6 $5 = \square \div 8$ ☐

7 $60 \times \square = 6000$ ☐

8 $89.32 \times 10 = \square$ ☐

9 $\square = \frac{2}{3}$ of 18 ☐

10 $2 \times \square = 14 - 2$ ☐

11 $8\overline{)6356}$ ☐

12 $27 = \square^3$ ☐

13 $\frac{5}{8} + \frac{1}{2} = \square$ ☐

14 $\square = 700 - 524$ ☐

15 $\frac{5}{7} + \frac{9}{14} = \square$ ☐

16 $\frac{7}{10}$ of $40 = \square$ ☐

Autumn Test 5 (continued)

17 $\square - 4 = 5 \times 5$

18 $73.4 \div 100 = \square$

19
$$\begin{array}{r} 2\,4\,9\,3 \\ \times \quad\quad 6 \\ \hline \end{array}$$

20 $4 \overline{)\,7172}$

21 $3.42 + 46.9 = \square$

22
$$\begin{array}{r} 8\,4\,1 \\ \times \quad 1\,6 \\ \hline \end{array}$$
(2 marks)

23 $\square = 23.28 - 7.9$

24 $7062 - \square = 5183$

25 $4131 = \square \times 3$

26 $5358 \div \square = 2$

27 $752\,684 + 379 + 58\,362 = \square$

28
$$\begin{array}{r} 6\,8\,3 \\ \times \quad 7\,6 \\ \hline \end{array}$$
(2 marks)

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	21	23	27									
– with zeros	14	24										
÷ or x by 10, 100 or 1000	4	7	8	18								
Long x	22	28										
Fractions	9	13	15	16								
Missing numbers	3	5	6	7	10	12	17	24	25	26		
+	13	15	17	21	27							
–	3	10	14	23	24							
x	1	2	6	8	9	16	17	19	22	28		
÷	4	5	7	9	10	11	12	16	18	20	25	26

Autumn Test 6

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Finding fractions of amounts
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication of up to three digits by a two-digit number
- Missing number calculations, including balanced calculations, with all four operations

New: Formal written method for long division of 4-digit numbers by 2-digit numbers

A teaching suggestion

Step 1 Review short division (e.g. 7422 ÷ 6) and complete a calculation discussing the steps needed. Emphasise the importance of knowing the six times table.

Step 2 Display 4509 ÷ 23 and then set out the sum for formal division. $23\overline{)4509}$

Step 3 Discuss what might make this difficult (i.e. we do not know the 23 times table). Together, write out the 23 times table to $10 \times 23 = 230$. Explain that this is a good point to get to because we know $10 \times 23 = 230$ so we can check that 10×23 has the correct answer.

Step 4 Now ask: 'How many groups of 23 (thousands) can you make with 4 (thousands)? and agree that there are none. Now ask: 'How many groups of 23 (hundreds) can you make with 45 (hundreds)?' Use the written table to agree that there is 1 (hundred). Write 1 hundred in the correct column on the answer line and the 23 hundred underneath the 45 hundred.

```
   1
23|4509
  23
```

Step 5 Subtract the 23 (hundred) from 45 (hundred), writing the answer underneath. Then drop down the next figure. Chant: 'Take away and drop the next digit down!'.

```
   1
23|4509
  23↓
  220
```

Step 6 Now ask: 'How many groups of 23 (tens) can you make with 220 (tens)?' Use the written table to agree that there are 9 (tens). Write 9 on the answer line and 207 tens under the 220 tens.

```
   19
23|4509
  23↓
  220
  207
```

Step 7 Subtract the 207 tens from 220 tens, writing the answer below, and drop down the next digit. Chant: 'Take away and drop the next digit down!'.

```
   19
23|4509
  23↓
  220
  207↓
```

Step 8 Now ask: 'How many 23s in 139?' and use the written table to agree that there are 6. Write the 6 on the answer line and the 138 under the 139. Subtract to give 1 and check that there are no more digits to drop down.

Step 9 The calculation is complete and there is a remainder of 1: 4509 ÷ 23 = 196 r1.

```
   196
23|4509
  23↓
  220
  207↓
   139
   138
     1
```

Question number	Question	Answer	Marks	Related test
1	$0.1 + \square = 1$	0.9	1	Y5 Summer Test 4
2	$16 = \square^2$	4	1	Y5 Autumn Test 4
3	$\square \div 7 = 9$	63	1	Y4 Autumn Test 3, Y4 Spring Tests 2 and 6
4	$26 \times 100 = \square$	2600	1	Y5 Autumn Test 5
5	$48 = \square \times 6$	8	1	Y4 Autumn Test 3, Y4 Spring Test 4
6	$0^2 = \square$	0	1	Y5 Autumn Test 4
7	$\square = 8512 \div 6$	1418 r4	1	Y5 Autumn Test 6
8	$3282 \times 5 = \square$	16 410	1	Y5 Spring Test 3
9	$\frac{2}{3} - \frac{4}{9} = \square$	$\frac{2}{9}$ (or equiv)	1	Y5 Spring Test 6
10	$5859 = \square \times 7$	837	1	Y5 Spring Test 5, Y4 Autumn Test 3
11	$7137 \div 3 = \square$	2379	1	Y5 Spring Test 5
12	$4.25 \times 10 = \square$	42.5	1	Y5 Spring Test 2
13	$7 + 4 = \square - 4$	15	1	Y6 Autumn Test 4
14	$\frac{4}{5}$ of $40 = \square$	32	1	Y6 Autumn Test 3
15	$\frac{15}{12} - \frac{1}{6} = \square$	$1\frac{7}{12}$ (or equiv)	1	Y6 Autumn Test 2
16	$2 \times 3 = 30 - \square$	24	1	Y6 Autumn Test 4
17	$3690 \div 15 = \square$	246	2*	Y6 Autumn Test 6
18	$748\,261 - 9465 = \square$	738 796	1	Y5 Spring Test 4
19	$500 - \square = 138$	362	1	Y5 Autumn Test 3, Y3 Autumn Test 1
20	$\square = 493.5 \div 1000$	0.4935	1	Y5 Spring Test 2
21	$8808 \div 24 = \square$	367	2*	Y6 Autumn Test 6
22	$8003 - 2784 = \square$	5219	1	Y5 Autumn Test 3
23	$5192 \div \square = 8$	649	1	Y5 Spring Test 5, Y4 Autumn Test 3
24	$7.6 + 32.64 + 375.8 = \square$	416.04	1	Y6 Autumn Test 5
25	$6208 \div 32 = \square$	194	2*	Y6 Autumn Test 6
26	$297 \times 48 = \square$	14 256	2*	Y6 Autumn Test 1
		Total marks	**30**	

* award 1 mark if there is one error in the working

Autumn Test 6

Name: ..... **Class:** ..... **Date:** .....

1 $0.1 + \square = 1$ ☐

2 $16 = \square^{2}$ ☐

3 $\square \div 7 = 9$ ☐

4 $26 \times 100 = \square$ ☐

5 $48 = \square \times 6$ ☐

6 $0^{2} = \square$ ☐

7 $\square = 8512 \div 6$ ☐

8
$$\begin{array}{r} 3\,2\,8\,2 \\ \times \quad\quad 5 \\ \hline \end{array}$$
☐

9 $\frac{2}{3} - \frac{4}{9} = \square$ ☐

10 $5859 = \square \times 7$ ☐

11 $3\overline{)7137}$ ☐

12 $4.25 \times 10 = \square$ ☐

13 $7 + 4 = \square - 4$ ☐

14 $\frac{4}{5}$ of $40 = \square$ ☐

15 $\frac{15}{12} - \frac{1}{6} = \square$ ☐

16 $2 \times 3 = 30 - \square$ ☐

Autumn Test 6 (continued)

17 $15 \overline{)3690}$ (2 marks) ☐

18 $748\,261 - 9465 =$ ☐

19 $500 - \square = 138$ ☐

20 $\square = 493.5 \div 1000$ ☐

21 $24 \overline{)8808}$ (2 marks) ☐

22 $8003 - 2784 =$ ☐

23 $5192 \div \square = 8$ ☐

24 $7.6 + 32.64 + 375.8 =$ ☐

25 $32 \overline{)6208}$ (2 marks) ☐

26
$$\begin{array}{r} 297 \\ \times\ 48 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	18	24									
– with zeros	19	22									
÷ or x by 10, 100 or 1000	4	12	20								
Long x and long ÷	17	21	25	26							
Fractions	9	14	15								
Missing numbers	1	2	3	5	10	13	16	19	23		
+	13	24									
–	1	9	15	16	18	19	22				
x	3	4	6	8	12	14	16	26			
÷	2	5	7	10	11	14	17	20	21	23	25

Spring Test 1

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations

New: Calculations with brackets

A teaching suggestion

Step 1 Display $2 \times 3 + 4 =$ and work through together: $2 \times 3 + 4 = 6 + 4 = 10$

Step 2 Now display $2 \times (3 + 4) =$ and discuss how this is similar and different to the first sum.

Step 3 Explain that the brackets are like two arms held up, pointing inwards and saying: 'Do me first!'. Get the children to raise their arms and call out: 'Do me first!'.

Step 4 Look back at $2 \times (3 + 4) =$ and agree that the brackets are saying: 'Do me first!'. So do this part of the calculation first: $2 \times (3 + 4) = 2 \times 7 = 14$

Step 5 Work through lots of examples with the children, and then encourage them to work with a partner before trying the calculations independently.

Question number	Question	Answer	Marks	Related test
1	$\square \times 6 = 24$	4	1	Y4 Autumn Test 3, Y4 Spring Test 4
2	$1 = 0.4 + \square$	0.6	1	Y5 Summer Test 4
3	$5^2 = \square$	25	1	Y5 Autumn Test 4
4	$320 \times \square = 3200$	10	1	Y5 Autumn Test 5, Y4 Autumn Test 3
5	$\square = 7534 \div 4$	1883 r2	1	Y5 Autumn Test 6
6	$64 = \square^2$	8	1	Y5 Autumn Test 4
7	$643.1 \div 10 = \square$	64.31	1	Y5 Spring Test 2
8	$7 + 6 = \square - 5$	18	1	Y6 Autumn Test 4
9	$\square = \frac{5}{6}$ of 48	40	1	Y6 Autumn Test 3
10	$\frac{1}{4} + \frac{5}{12} = \square$	$\frac{8}{12}$ (or equiv)	1	Y5 Spring Test 6
11	$6^3 = \square$	216	1	Y5 Spring Test 1
12	$78.341 \times 1000 = \square$	78 341	1	Y5 Spring Test 2
13	$\frac{7}{8} + \frac{3}{4} = \square$	$1\frac{5}{8}$ (or equiv)	1	Y6 Autumn Test 2
14	$9 - (5 + 2) = \square$	2	1	Y6 Spring Test 1
15	$6285 \times 9 = \square$	56 565	1	Y5 Spring Test 3
16	$6001 - 3125 = \square$	2876	1	Y5 Autumn Test 3
17	$4655 \div 7 = \square$	665	1	Y5 Spring Test 5
18	$48.7 = 3.48 + \square$	45.22	1	Y6 Autumn Test 5, Y3 Autumn Test 1
19	$\square = 3 \times (4 + 2)$	18	1	Y6 Spring Test 1
20	$900 - \square = 642$	258	1	Y5 Autumn Test 3, Y3 Autumn Test 1
21	$7056 = \square \times 8$	882	1	Y5 Spring Test 5, Y4 Autumn Test 3
22	$20 \div (4 + 1) = \square$	4	1	Y6 Spring Test 1
23	$\square = 68.1 - 9.62$	58.48	1	Y6 Autumn Test 5
24	$7128 \div 22 = \square$	324	2*	Y6 Autumn Test 6
25	$733\,268 + 92 + 3785 = \square$	737 145	1	Y5 Spring Test 4
26	$7434 \div 42 = \square$	177	2*	Y6 Autumn Test 6
27	$376 \times 59 = \square$	22 184	2*	Y6 Autumn Test 1
	Total marks		**30**	

* award 1 mark if there is one error in the working

Spring Test 1

Name: ..... **Class:** ..... **Date:** .....

1	$\square \times 6 = 24$	☐
2	$1 = 0.4 + \square$	☐
3	$5^2 = \square$	☐
4	$320 \times \square = 3200$	☐
5	$\square = 7534 \div 4$	☐
6	$64 = \square^2$	☐
7	$643.1 \div 10 = \square$	☐
8	$7 + 6 = \square - 5$	☐
9	$\square = \frac{5}{6}$ of 48	☐
10	$\frac{1}{4} + \frac{5}{12} = \square$	☐
11	$6^3 = \square$	☐
12	$78.341 \times 1000 = \square$	☐
13	$\frac{7}{8} + \frac{3}{4} = \square$	☐
14	$9 - (5 + 2) = \square$	☐
15	$6285 \times 9 = \square$	☐
16	$6001 - 3125 = \square$	☐

Spring Test 1 (continued)

17 $7 \overline{)4655}$

18 $48.7 = 3.48 +$ ☐

19 ☐ $= 3 \times (4 + 2)$

20 $900 -$ ☐ $= 642$

21 $7056 =$ ☐ $\times 8$

22 $20 \div (4 + 1) =$ ☐

23 ☐ $= 68.1 - 9.62$

24 $22 \overline{)7128}$ (2 marks)

25 $733\,268 + 92 + 3785 =$ ☐

26 $42 \overline{)7434}$ (2 marks)

27
$$\begin{array}{r} 376 \\ \times\ 59 \\ \hline \end{array}$$
(2 marks)

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	18	23	25								
– with zeros	16	20									
÷ or x by 10, 100 or 1000	4	7	12								
Long x and long ÷	24	26	27								
Fractions	9	10	13								
Missing numbers	1	2	4	6	8	18	20	21			
Brackets	14	19	22								
+	8	10	13	14	19	22	25				
–	2	14	16	18	20	23					
x	3	9	11	12	15	19	27				
÷	1	4	5	6	7	9	17	21	22	24	26

Spring Test 2

Teacher guidance

30 minutes

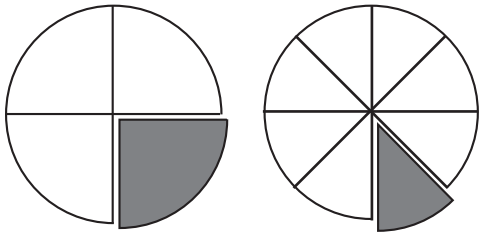
Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: Multiplication of pairs of simple fractions

A teaching suggestion

Step 1 Cut one circle into quarters and another into eighths. Display $\frac{1}{2} \times \frac{1}{4} =$



Step 2 Explain that 'of' and '×' have the same meaning, so $\frac{1}{2} \times \frac{1}{4} = \frac{1}{2}$ of $\frac{1}{4}$.

Step 3 Show the children that to find half of a quarter you need to cut the quarter in half. Compare this 'half of a quarter' with the eighths, and agree that they match. $\frac{1}{2}$ of $\frac{1}{4} = \frac{1}{8}$ and $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$

Step 4 Repeat with $\frac{1}{3} \times \frac{1}{2} =$ by cutting a half into three parts, which gives one sixth: $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$.

Step 5 Work through lots of examples with the children until they confidently multiply the digits, understanding why they do so. Allow them to work with a partner before trying the calculations independently.

Step 6 This work can be extended to multiples of fractions (e.g. $\frac{1}{2} \times \frac{3}{4} =$).

Question number	Question	Answer	Marks	Related test
1	$1 - 0.7 = \square$	0.3	1	Y5 Summer Test 4
2	$\square = 610 \times 1000$	610 000	1	Y5 Autumn Test 5
3	$2^3 = \square$	8	1	Y5 Spring Test 1
4	$4835 \times 3 = \square$	14 505	1	Y5 Spring Test 3
5	$\square^2 = 9$	3	1	Y5 Autumn Test 4
6	$8391 \div 7 = \square$	1198 r5	1	Y5 Autumn Test 6
7	$9^2 = \square$	81	1	Y5 Autumn Test 4
8	$63.2 \times 10 = \square$	632	1	Y5 Spring Test 2
9	$\frac{3}{5} - \frac{1}{15} = \square$	$\frac{8}{15}$ (or equiv)	1	Y5 Spring Test 6
10	$2 \times 9 = \square + 10$	8	1	Y6 Autumn Test 4
11	$\frac{14}{6} - \frac{1}{2} = \square$	$1\frac{5}{6}$ (or equiv)	1	Y6 Autumn Test 2
12	$\square = \frac{1}{4} \times \frac{1}{2}$	$\frac{1}{8}$ (or equiv)	1	Y6 Spring Test 2
13	$800 - 423 = \square$	377	1	Y5 Autumn Test 3
14	$\frac{3}{4}$ of $120 = \square$	90	1	Y6 Autumn Test 3
15	$\square = 6.25 \div 100$	0.0625	1	Y5 Spring Test 2
16	$\frac{1}{3} \times \frac{1}{4} = \square$	$\frac{1}{12}$ (or equiv)	1	Y6 Spring Test 2
17	$5203 \div 9 = \square$	578 r1	1	Y5 Spring Test 5
18	$(20 - 4) \div 4 = \square$	4	1	Y6 Spring Test 1
19	$6007 - \square = 2308$	3699	1	Y5 Autumn Test 3, Y3 Autumn Test 1
20	$\frac{3}{5} \times \frac{1}{2} = \square$	$\frac{3}{10}$ (or equiv)	1	Y6 Spring Test 2
21	$75 + \square = 5110$	5035	1	Y5 Spring Test 4, Y3 Autumn Test 1
22	$6 \times (5 - 2) = \square$	18	1	Y6 Spring Test 1
23	$8105 = \square \times 5$	1621	1	Y5 Spring Test 5, Y4 Autumn Test 3
24	$5332 \div \square = 4$	1333	1	Y5 Spring Test 5, Y4 Autumn Test 3
25	$752\,945 - 86\,582 = \square$	666 363	1	Y5 Spring Test 4
26	$9906 \div 26 = \square$	381	2*	Y6 Autumn Test 6
27	$26.8 + 8.68 + 14 = \square$	49.48	1	Y6 Autumn Test 5
28	$723 \times 86 = \square$	62 178	2*	Y6 Autumn Test 1
		Total marks	**30**	

* award 1 mark if there is one error in the working

Spring Test 2

Name: ..... **Class:** ..... **Date:** .....

1 $1 - 0.7 = \square$ ☐

2 $\square = 610 \times 1000$ ☐

3 $2^3 = \square$ ☐

4 $4835 \times 3 = \square$ ☐

5 $\square^2 = 9$ ☐

6 $8391 \div 7 = \square$ ☐

7 $9^2 = \square$ ☐

8 $63.2 \times 10 = \square$ ☐

9 $\frac{3}{5} - \frac{1}{15} = \square$ ☐

10 $2 \times 9 = \square + 10$ ☐

11 $\frac{14}{6} - \frac{1}{2} = \square$ ☐

12 $\square = \frac{1}{4} \times \frac{1}{2}$ ☐

13 $800 - 423 = \square$ ☐

14 $\frac{3}{4}$ of $120 = \square$ ☐

15 $\square = 6.25 \div 100$ ☐

16 $\frac{1}{3} \times \frac{1}{4} = \square$ ☐

Spring Test 2 (continued)

17 $9 \overline{)5203}$ ☐

18 $(20 - 4) \div 4 =$ ☐ ☐

19 $6007 -$ ☐ $= 2308$ ☐

20 $\frac{3}{5} \times \frac{1}{2} =$ ☐ ☐

21 $75 +$ ☐ $= 5110$ ☐

22 $6 \times (5 - 2) =$ ☐ ☐

23 $8105 =$ ☐ $\times 5$ ☐

24 $5332 \div$ ☐ $= 4$ ☐

25 $752\,945 - 86\,582 =$ ☐ ☐

26 $26 \overline{)9906}$ (2 marks) ☐

27 $26.8 + 8.68 + 14 =$ ☐ ☐

28
$$\begin{array}{r} 723 \\ \times\ \ 86 \\ \hline \end{array}$$
(2 marks) ☐

Total marks /30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	21	25	27									
– with zeros	13	19										
÷ or x by 10, 100 or 1000	2	8	15									
Long x and long ÷	26	28										
Fractions	9	11	12	14	16	20						
Missing numbers	5	10	19	21	23	24						
Brackets	18	22										
+	27											
–	1	9	10	11	13	18	19	21	22	25		
x	2	3	4	7	8	10	12	14	16	20	22	28
÷	5	6	14	15	17	18	23	24	26			

Spring Test 3

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: Multiplication and division of decimals to three decimal places by 10, 100 or 1000

A teaching suggestion

Step 1 Tell the children that they are going to learn about multiplication and division of numbers by 10, 100 and 1000. It is helpful to have a decimal point in a fixed position and digit cards that can be moved to illustrate the method.

Step 2 Agree that, when multiplying by 10, 100 and 1000, the digits in the number move to the left, as the answer is bigger than the original number. When dividing by 10, 100 and 1000, the digits in the number move to the right to give an answer that is smaller than the original number.

Step 3 Display 1346 ÷ 1000. Establish that the number will become 1000 times smaller. This means that the digits in the number move three columns to the right.
Move 1 = 134.6 Move 2 = 13.46 Move 3 = 1.346

Th	H	T	O .	t	h	th			Th	H	T	O .	t	h	th
1	3	4	6				becomes					1 .	3	4	6

Step 4 Display 5.6 ÷ 100. Establish that there are two moves and the division sign means the digits move to the right to make the number smaller.
Move 1 = 0.56 Move 2 = 0.056

Th	H	T	O .	t	h	th			Th	H	T	O .	t	h	th
			5 .	6			becomes					0 .	0	5	6

Step 5 Complete lots of examples with the children, and then allow them to work with a partner to complete similar examples before trying the work independently.

Question number	Question	Answer	Marks	Related test
1	$1^2 = \square$	1	1	Y5 Autumn Test 4
2	$0.1 = \square - 0.9$	1	1	Y5 Summer Test 4
3	$\square \times 12 = 108$	9	1	Y4 Autumn Test 3, Y4 Summer Test 2
4	$900 \times \square = 90\,000$	100	1	Y5 Autumn Test 5, Y4 Autumn Test 3
5	$144 = \square^2$	12	1	Y5 Autumn Test 4
6	$3408 \div 9 = \square$	378 r6	1	Y5 Autumn Test 6
7	$\square = 2176 \times 6$	13 056	1	Y5 Spring Test 3
8	$\frac{1}{6} + \frac{5}{12} = \square$	$\frac{7}{12}$ (or equiv)	1	Y5 Spring Test 6
9	$13 + 15 = \square \times 4$	7	1	Y6 Autumn Test 4
10	$9.8165 \times 100 = \square$	981.65	1	Y6 Spring Test 3
11	$\frac{15}{10} + \frac{4}{5} = \square$	$2\frac{3}{10}$ (or equiv)	1	Y6 Autumn Test 2
12	$\square = \frac{3}{8}$ of 40	15	1	Y6 Autumn Test 3
13	$\frac{1}{5} \times \frac{1}{3} = \square$	$\frac{1}{15}$ (or equiv)	1	Y6 Spring Test 2
14	$4^3 = \square$	64	1	Y5 Spring Test 1
15	$139.652 \div 10 = \square$	13.9652	1	Y6 Spring Test 3
16	$9004 - 5119 = \square$	3885	1	Y5 Autumn Test 3
17	$8574 \div 6 = \square$	1429	1	Y5 Spring Test 5
18	$\square = 4 \times (10 - 5)$	20	1	Y6 Spring Test 1
19	$\frac{1}{6} \times \frac{1}{2} = \square$	$\frac{1}{12}$ (or equiv)	1	Y6 Spring Test 2
20	$600 - \square = 162$	438	1	Y5 Autumn Test 3, Y3 Autumn Test 1
21	$7458 + 29\,815 + 67 = \square$	37 340	1	Y5 Spring Test 4
22	$35.92 - 6.741 = \square$	29.179	1	Y6 Autumn Test 5
23	$(30 - 19) \times 8 = \square$	88	1	Y6 Spring Test 1
24	$4 \times \square = 7132$	1783	1	Y5 Spring Test 5, Y4 Autumn Test 3
25	$\square \div 8 = 632$	5056	1	Y5 Spring Test 3, Y4 Autumn Test 3
26	$71.7 = \square - 8.351$	80.051	1	Y6 Autumn Test 5, Y3 Autumn Test 1
27	$8531 \div 19 = \square$	449	2*	Y6 Autumn Test 6
28	$483 \times 37 = \square$	17 871	2*	Y6 Autumn Test 1
		Total marks	**30**	

* award 1 mark if there is one error in the working

Spring Test 3

Name: ..... **Class:** ..... **Date:** .....

1 $1^2 =$ ☐ ☐

2 $0.1 =$ ☐ $- 0.9$ ☐

3 ☐ $\times 12 = 108$ ☐

4 $900 \times$ ☐ $= 90\,000$ ☐

5 $144 =$ ☐^{2} ☐

6 $3408 \div 9 =$ ☐ ☐

7 ☐ $= 2176 \times 6$ ☐

8 $\frac{1}{6} + \frac{5}{12} =$ ☐ ☐

9 $13 + 15 =$ ☐ $\times 4$ ☐

10 $9.8165 \times 100 =$ ☐ ☐

11 $\frac{15}{10} + \frac{4}{5} =$ ☐ ☐

12 ☐ $= \frac{3}{8}$ of 40 ☐

13 $\frac{1}{5} \times \frac{1}{3} =$ ☐ ☐

14 $4^3 =$ ☐ ☐

15 $139.652 \div 10 =$ ☐ ☐

16 $9004 - 5119 =$ ☐ ☐

Spring Test 3 (continued)

17 $6 \overline{)8574}$ ☐

18 $\square = 4 \times (10 - 5)$ ☐

19 $\frac{1}{6} \times \frac{1}{2} = \square$ ☐

20 $600 - \square = 162$ ☐

21 $7458 + 29815 + 67 = \square$ ☐

22 $35.92 - 6.741 = \square$ ☐

23 $(30 - 19) \times 8 = \square$ ☐

24 $4 \times \square = 7132$ ☐

25 $\square \div 8 = 632$ ☐

26 $71.7 = \square - 8.351$ ☐

27 $19 \overline{)8531}$ (2 marks) ☐

28
$$\begin{array}{r} 483 \\ \times\ 37 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	21	22	26							
– with zeros	16	20								
÷ or x by 10, 100 or 1000	4	10	15							
Long x and long ÷	27	28								
Fractions	8	11	12	13	19					
Missing numbers	2	3	4	5	9	20	24	25	26	
Brackets	18	23								
+	2	8	9	11	21					
–	16	18	20	22	23	26				
x	1	7	10	12	13	14	18	19	23	25	28
÷	3	4	5	6	9	12	15	17	24	27	

Spring Test 4

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: Long multiplication of up to four digits by a two-digit number

A teaching suggestion

Step 1 Display:

$$\begin{array}{r} 3683 \\ \times\ \ 34 \\ \hline \end{array}$$

Step 2 Explain that the children are going to extend the formal method for long multiplication, and remind them that it is like doing three calculations but only having to write one!

Step 3 Demonstrate that you start by multiplying by the ones for the first calculation, so $4 \times 3683 = 14\,732$.

$$\begin{array}{r} 3683 \\ \times\ \ 34 \\ \hline 14732 \\ {\scriptstyle 2\ 3\ 1} \end{array}$$

Step 4 Explain that the second calculation is multiplying by the tens. Emphasise that you are multiplying by 30 (not 3), so $3683 \times 30 = 110\,490$.

$$\begin{array}{r} 3683 \\ \times\ \ 34 \\ \hline 14732 \\ 110490 \\ {\scriptstyle 2\ \ 2} \end{array}$$

Step 5 Next, demonstrate the third calculation, where the answers to the other two parts are added together, so $14\,732 + 110\,490 = 125\,222$.

$$\begin{array}{r} 3683 \\ \times\ \ 34 \\ \hline 14732 \\ 110490 \\ \hline 125222 \\ {\scriptstyle 1\ 1} \end{array}$$

Step 6 Work through lots of examples with the children, and then let them work with a partner before trying the calculations independently.

Question number	Question	Answer	Marks	Related test
1	$0.3 + \square = 1$	0.7	1	Y5 Summer Test 4
2	$\square = 70 \times 100$	7000	1	Y5 Autumn Test 5
3	$4^2 = \square$	16	1	Y5 Autumn Test 4
4	$11 = \square \div 12$	132	1	Y4 Autumn Test 3, Y4 Summer Test 2
5	$8418 \div 5 = \square$	1683 r3	1	Y5 Autumn Test 6
6	$49 = \square^2$	7	1	Y5 Autumn Test 4
7	$19 - \square = 30 \div 2$	4	1	Y6 Autumn Test 4
8	$5455 \times 7 = \square$	38 185	1	Y5 Spring Test 3
9	$\frac{3}{14} - \frac{1}{7} = \square$	$\frac{1}{14}$ (or equiv)	1	Y5 Spring Test 6
10	$4.8652 \times 100 = \square$	486.52	1	Y6 Spring Test 3
11	$\square = 10^3$	1000	1	Y5 Spring Test 1
12	$\frac{1}{3} \times \frac{1}{10} = \square$	$\frac{1}{30}$ (or equiv)	1	Y6 Spring Test 2
13	$(7 + 3) \times 5 = \square$	50	1	Y6 Spring Test 1
14	$\frac{2}{3}$ of $24 = \square$	16	1	Y6 Autumn Test 3
15	$\frac{11}{4} - \frac{1}{12} = \square$	$2\frac{8}{12}$ (or equiv)	1	Y6 Autumn Test 2
16	$\frac{2}{5} \times \frac{1}{5} = \square$	$\frac{2}{25}$ (or equiv)	1	Y6 Spring Test 2
17	$\square = 8000 - 4219$	3781	1	Y5 Autumn Test 3
18	$645\,283 - 4395 = \square$	640 888	1	Y5 Spring Test 4
19	$9165 \div 5 = \square$	1833	1	Y5 Spring Test 5
20	$373 \times 94 = \square$	35 062	2*	Y6 Autumn Test 1
21	$6 \times \square = 4656$	776	1	Y5 Spring Test 5, Y4 Autumn Test 3
22	$438.7 + 3.86 + 5.9 = \square$	448.46	1	Y6 Autumn Test 5
23	$7003 - \square = 2885$	4118	1	Y5 Autumn Test 3, Y3 Autumn Test 1
24	$7 = 1904 \div \square$	272	1	Y5 Spring Test 5, Y4 Autumn Test 3
25	$\square + 936 = 14\,825$	13 889	1	Y6 Autumn Test 5, Y3 Autumn Test 1
26	$6732 \div 17 = \square$	396	2*	Y6 Autumn Test 6
27	$2794 \times 75 = \square$	209 550	2*	Y6 Autumn Test 4
		Total marks	**30**	

* award 1 mark if there is one error in the working

Spring Test 4

Name: ..... **Class:** ..... **Date:** .....

1 $0.3 + \square = 1$ ☐

2 $\square = 70 \times 100$ ☐

3 $4^2 = \square$ ☐

4 $11 = \square \div 12$ ☐

5 $5\overline{)8418}$ ☐

6 $49 = \square^2$ ☐

7 $19 - \square = 30 \div 2$ ☐

8 $5455 \times 7 = \square$ ☐

9 $\frac{3}{14} - \frac{1}{7} = \square$ ☐

10 $4.8652 \times 100 = \square$ ☐

11 $\square = 10^3$ ☐

12 $\frac{1}{3} \times \frac{1}{10} = \square$ ☐

13 $(7 + 3) \times 5 = \square$ ☐

14 $\frac{2}{3}$ of $24 = \square$ ☐

15 $\frac{11}{4} - \frac{1}{12} = \square$ ☐

16 $\frac{2}{5} \times \frac{1}{5} = \square$ ☐

Spring Test 4 (continued)

17 $\square = 8000 - 4219$

18 $645\,283 - 4395 = \square$

19 $5 \overline{)\,9165}$

20
$$\begin{array}{r} 373 \\ \times\ \ 94 \\ \hline \end{array}$$
(2 marks)

21 $6 \times \square = 4656$

22 $438.7 + 3.86 + 5.9 = \square$

23 $7003 - \square = 2885$

24 $7 = 1904 \div \square$

25 $\square + 936 = 14\,825$

26 $17 \overline{)\,6732}$ (2 marks)

27
$$\begin{array}{r} 2794 \\ \times\ \ 75 \\ \hline \end{array}$$
(2 marks)

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	18	22	25									
– with zeros	17	23										
÷ or x by 10, 100 or 1000	2	10										
Long x and long ÷	20	26	27									
Fractions	9	12	14	15	16							
Missing numbers	1	4	6	7	21	23	24	25				
Brackets	13											
+	13	22										
–	1	7	9	15	17	18	23	25				
x	2	3	4	8	10	11	12	13	14	16	20	27
÷	5	6	7	14	19	21	24	26				

Spring Test 5

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: Finding percentages of amounts

A teaching suggestion

Step 1 Display 10%, and ask the children what it means. Establish that $10\% = \frac{10}{100} = \frac{1}{10}$.

Step 2 Display 10% of 60. Agree that it is the same as finding $\frac{1}{10}$ of 60.

Step 3 Use the method for finding fractions of amounts to calculate that $\frac{1}{10}$ of $60 = 6$.

Step 4 Keep finding 10% of other numbers that end in zero until the children are quick and confident in finding 10% by dividing by 10.

Step 5 Extend to finding 20%, 30% and so on by multiplying up the amount for 10%. Then extend to finding 5% by halving the amount for 10%. For example:

To find 35% of 80

10% of $80 = 8$

30% of $80 = 3 \times 8 = 24$

5% of 80 $= \frac{1}{2}$ of $8 = 4$

35% of $80 = 24 + 4 = 28$

Question number	Question	Answer	Marks	Related test
1	$6^2 = \square$	36	1	Y5 Autumn Test 4
2	$600 \times 100 = \square$	60 000	1	Y5 Autumn Test 5
3	$\square - 0.5 = 0.5$	1	1	Y5 Summer Test 4
4	$6759 \div 8 = \square$	844 r7	1	Y5 Autumn Test 6
5	$\square = 3287 \times 9$	29 583	1	Y5 Spring Test 3
6	$7435 = \square \times 5$	1487	1	Y5 Spring Test 5, Y4 Autumn Test 3
7	$\frac{1}{2} + \frac{1}{6} = \square$	$\frac{4}{6}$ (or equiv)	1	Y5 Spring Test 6
8	$\square \times 5 = 28 + 22$	10	1	Y6 Autumn Test 4
9	$15 - (3 + 4) = \square$	8	1	Y6 Spring Test 1
10	$\frac{2}{9}$ of $36 = \square$	8	1	Y6 Autumn Test 3
11	$\frac{1}{4} \times \frac{1}{5} = \square$	$\frac{1}{20}$ (or equiv)	1	Y6 Spring Test 2
12	10% of $320 = \square$	32	1	Y6 Spring Test 5
13	$\frac{2}{3} + \frac{14}{9} = \square$	$2\frac{2}{9}$ (or equiv)	1	Y6 Autumn Test 2
14	$7.6341 \div 1000 = \square$	0.0076341	1	Y6 Spring Test 3
15	$8346 + 59 + 645\,931 = \square$	654 336	1	Y5 Spring Test 4
16	$\square^3 = 8$	2	1	Y5 Spring Test 1
17	5% of $140 = \square$	7	1	Y6 Spring Test 5
18	$\square = 384.2 - 79.56$	304.64	1	Y6 Autumn Test 5
19	$5.69 = 12.4 - \square$	6.71	1	Y6 Autumn Test 5, Y3 Autumn Test 1
20	$6000 - 3058 = \square$	2942	1	Y5 Autumn Test 3
21	$6356 \div 4 = \square$	1589	1	Y5 Spring Test 5
22	$6 = 2154 \div \square$	359	1	Y5 Spring Test 5, Y4 Autumn Test 3
23	$8000 - \square = 5843$	2157	1	Y5 Autumn Test 3, Y3 Autumn Test 1
24	$615 \times 62 = \square$	38 130	2*	Y6 Autumn Test 1
25	$6014 \div 31 = \square$	194	2*	Y6 Autumn Test 6
26	$\square =$ 15% of 360	54	1	Y6 Spring Test 5
27	$8629 \times 54 = \square$	465 966	2*	Y6 Spring Test 4
		Total marks	**30**	

* award 1 mark if there is one error in the working

Spring Test 5

Name: ..... **Class:** ..... **Date:** .....

1	$6^2 =$ ☐	☐
2	$600 \times 100 =$ ☐	☐
3	☐ $- 0.5 = 0.5$	☐
4	$6759 \div 8 =$ ☐	☐
5	☐ $= 3287 \times 9$	☐
6	$7435 =$ ☐ $\times 5$	☐
7	$\frac{1}{2} + \frac{1}{6} =$ ☐	☐
8	☐ $\times 5 = 28 + 22$	☐
9	$15 - (3 + 4) =$ ☐	☐
10	$\frac{2}{9}$ of $36 =$ ☐	☐
11	$\frac{1}{4} \times \frac{1}{5} =$ ☐	☐
12	10% of $320 =$ ☐	☐
13	$\frac{2}{3} + \frac{14}{9} =$ ☐	☐
14	$7.6341 \div 1000 =$ ☐	☐
15	$8346 + 59 + 645\,931 =$ ☐	☐
16	☐$^3 = 8$	☐

Spring Test 5 (continued)

17 5% of 140 = ☐ ☐

18 ☐ = 384.2 − 79.56 ☐

19 5.69 = 12.4 − ☐ ☐

20 6000 − 3058 = ☐ ☐

21 4 ⟌ 6356 ☐

22 6 = 2154 ÷ ☐ ☐

23 8000 − ☐ = 5843 ☐

24
$$\begin{array}{r} 615 \\ \times\ \ 62 \\ \hline \end{array}$$
(2 marks) ☐

25 31 ⟌ 6014 (2 marks) ☐

26 ☐ = 15% of 360 ☐

27
$$\begin{array}{r} 8629 \\ \times\ \ 54 \\ \hline \end{array}$$
(2 marks) ☐

Total marks /30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	15	18	19									
– with zeros	20	23										
÷ or x by 10, 100 or 1000	2	14										
Long x and long ÷	24	25	27									
Fractions	7	10	11	13								
Percentages of amounts	12	17	26									
Missing numbers	3	6	8	16	19	22	23					
Brackets	9											
+	3	7	8	9	13	15						
–	9	18	19	20	23							
x	1	2	5	10	11	17	24	26	27			
÷	4	6	8	10	12	14	16	17	21	22	25	26

Spring Test 6

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions and percentages of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: Division giving the answer to two decimal places

A teaching suggestion

Step 1 Display 137 ÷ 4 and then set out the sum for formal division. Explain that the children are going to learn to write remainders as a decimal.

Step 2 First ask: 'How many fours in 1 (hundred)?'. Agree there are none and ask: 'How many fours in 13 (tens)?'. Agree that there are 3 (tens) and 1 left over. Write this in, demonstrating where to write the answers.

$$4 \overline{)\,1\,3^{1}7}\quad 3$$

Step 3 Now ask: 'How many fours in 17?'. Agree that there are 4 fours and 1 left over. Write in the answer and explain that the remainder will be written as a decimal. Write '.0' after the number and put the remainder 1 by it.

$$4 \overline{)\,1\,3^{1}7.^{1}0}\quad 3\ 4$$

Step 4 Demonstrate how to put a decimal point above the answer line too, and continue with the calculation. Fours into 10 go two with 2 left over, which then needs another zero to be inserted. Complete the calculation.

$$4 \overline{)\,1\,4^{1}7\cdot^{1}0^{2}0}\quad 3\ 4\ .\ 2\ 5$$

Step 5 Ask the children for another way to write 0.25 and agree that it is equivalent to $\frac{1}{4}$, so the answer can be written as 34.25 (to two decimal places) or as $34\frac{1}{4}$. **Emphasise that remainders should now be calculated as decimals.**

Step 6 Complete lots of examples with the children, and then encourage them to work with a partner to complete similar examples before trying the work independently.

Question number	Question	Answer	Marks	Related test
1	$11^2 = \square$	121	1	Y5 Autumn Test 4
2	$4 \times \square = 32$	8	1	Y4 Autumn Test 3, Y3 Spring Test 4
3	$0.1 + \square = 1$	0.9	1	Y5 Summer Test 4, Y3 Autumn Test 1
4	$\square \div 100 = 40$	4000	1	Y5 Autumn Test 5, Y4 Autumn Test 3
5	$6 = 24 \div \square$	4	1	Y4 Autumn Test 3, Y4 Spring Test 4
6	$6682 \times 8 = \square$	53 456	1	Y5 Spring Test 3
7	$\square^3 = 64$	4	1	Y5 Spring Test 1
8	$50 - 30 = \square \div 2$	40	1	Y6 Autumn Test 4
9	$\square$ = 10% of 200	20	1	Y6 Spring Test 5
10	$\frac{8}{9} - \frac{2}{3} = \square$	$\frac{2}{9}$ (or equiv)	1	Y5 Spring Test 6
11	$25 \div (7 - 2) = \square$	5	1	Y6 Spring Test 1
12	$\frac{3}{10} \times \frac{1}{5} = \square$	$\frac{3}{50}$ (or equiv)	1	Y6 Spring Test 2
13	$0.012 \times 10 = \square$	0.12	1	Y6 Spring Test 3
14	$\frac{2}{7}$ of $70 = \square$	20	1	Y6 Autumn Test 3
15	$\square = \frac{16}{7} - \frac{3}{14}$	$2\frac{1}{14}$ (or equiv)	1	Y6 Autumn Test 2
16	$387 \div 2 = \square$	193.5	1	Y6 Spring Test 6
17	$5000 - 2145 = \square$	2855	1	Y5 Autumn Test 3
18	$4.7 + 26.28 + 158.34 = \square$	189.32	1	Y6 Autumn Test 5
19	$\square = 3960 \div 8$	495	1	Y5 Spring Test 5
20	$273\,485 - 89\,916 = \square$	183 569	1	Y5 Spring Test 4
21	$8214 = \square \times 3$	2738	1	Y5 Spring Test 5, Y4 Autumn Test 3
22	$674 \div 4 = \square$	168.5	1	Y6 Spring Test 6
23	15% of $480 = \square$	72	1	Y6 Spring Test 5
24	$\square \div 3 = 784$	2352	1	Y5 Spring Test 3, Y4 Autumn Test 3
25	$1293 = 7000 - \square$	5707	1	Y5 Autumn Test 3, Y3 Autumn Test 1
26	$6187 \div 23 = \square$	269	2*	Y6 Autumn Test 6
27	$2427 \times 88 = \square$	213 576	2*	Y6 Spring Test 4
28	$7321 \div 8 = \square$	915.125	1	Y6 Spring Test 6
		Total marks	**30**	

* award 1 mark if there is one error in the working

Spring Test 6

Name: ..... **Class:** ..... **Date:** .....

1 $11^2 =$ ☐ ☐

2 $4 \times$ ☐ $= 32$ ☐

3 $0.1 +$ ☐ $= 1$ ☐

4 ☐ $\div 100 = 40$ ☐

5 $6 = 24 \div$ ☐ ☐

6 $6682 \times 8 =$ ☐ ☐

7 ☐^{3} $= 64$ ☐

8 $50 - 30 =$ ☐ $\div 2$ ☐

9 ☐ $=$ 10% of 200 ☐

10 $\frac{8}{9} - \frac{2}{3} =$ ☐ ☐

11 $25 \div (7 - 2) =$ ☐ ☐

12 $\frac{3}{10} \times \frac{1}{5} =$ ☐ ☐

13 $0.012 \times 10 =$ ☐ ☐

14 $\frac{2}{7}$ of $70 =$ ☐ ☐

15 ☐ $= \frac{16}{7} - \frac{3}{14}$ ☐

16 $2\overline{)387}$ ☐

Spring Test 6 (continued)

17 $5000 - 2145 =$ ☐

18 $4.7 + 26.28 + 158.34 =$ ☐ ☐

19 ☐ $= 3960 \div 8$ ☐

20 $273\,485 - 89\,916 =$ ☐ ☐

21 $8214 =$ ☐ $\times 3$ ☐

22 $4 \overline{)\,6\,7\,4}$ ☐

23 15% of 480 = ☐ ☐

24 ☐ $\div 3 = 784$ ☐

25 $1293 = 7000 -$ ☐ ☐

26 $23 \overline{)\,6\,1\,8\,7}$ (2 marks) ☐

27
$$\begin{array}{r} 2\,4\,2\,7 \\ \times \quad 8\,8 \\ \hline \end{array}$$
(2 marks) ☐

28 $8 \overline{)\,7\,3\,2\,1}$ ☐

Total marks /30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	18	20											
– with zeros	17	25											
÷ or x by 10, 100 or 1000	4	13											
Long x and long ÷	26	27											
÷ with decimal remainders	16	22	28										
Fractions	10	12	14	15									
Percentages of amounts	9	23											
Missing numbers	2	3	4	5	7	8	21	24	25				
Brackets	11												
+	18												
–	3	8	10	11	15	17	20	25					
x	1	4	6	8	12	13	14	23	24	27			
÷	2	5	7	9	11	14	16	19	21	22	23	26	28

Summer Test 1

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with decimal remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions and percentages of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets

New: The order of operations (BIDMAS)

A teaching suggestion

Step 1 Provide a cartoon character and introduce it to the children as 'BIDMAS'. Explain that BIDMAS is going to use his or her name to help them with some tricky calculations.

Step 2 Display the word 'BIDMAS'. Work through the meaning of each letter of the name (brackets, indices, division and multiplication, addition and subtraction), explaining that when a sum has more than one operation this is the order in which they must be completed. Brackets are completed first, then indices, then multiplication and division (in any order) and, lastly, addition and subtraction (again, in any order).

Step 3 Display $3 + 4 \times 3 =$ and then work through the calculation in the order it is written ($3 + 4 \times 3 = 7 \times 3 = 21$), and then in the order according to BIDMAS ($3 + 4 \times 3 = 3 + 12 = 15$). Emphasise that only one of these is correct, and that it is the one solved using BIDMAS.

Step 4 Display:
$(40 - 4) \div 2^2 + 7 \times 3$ Work through it using BIDMAS.

$(40 - 4) \div 2^2 + 7 \times 3$ (Do the brackets first …)
$= 36 \div 2^2 + 7 \times 3$ (… the indices next …)
$= 36 \div 4 + 7 \times 3$ (… then multiplication and division in any order …)
$= 9 + 21$ (… then addition and subtraction in any order …)
$= 30$ (… and you get the answer.)

Step 5 Complete lots of examples with the children. Then ask them to work with a partner to complete similar examples before trying the work independently. Ensure children understand that if a calculation contains operators of equal precedence they can be done in any order. For example $28 - 35 + 16$ does not mean that 35 must be subtracted from 28 before 16 is added.

Question number	Question	Answer	Marks	Related test
1	$14 \times 0 = \square$	0	1	Y4 Autumn Test 4
2	$7^2 = \square$	49	1	Y5 Autumn Test 4
3	$1 - 0.7 = \square$	0.3	1	Y5 Summer Test 4
4	$210 \times \square = 210\,000$	1000	1	Y5 Autumn Test 5, Y4 Autumn Test 3
5	$7 = 35 \div \square$	5	1	Y4 Autumn Test 3, Y4 Spring Test 6
6	$4896 \div 9 = \square$	544	1	Y5 Spring Test 5
7	$\square \times 10 = 29 + 31$	6	1	Y6 Autumn Test 4
8	$\frac{4}{5} + \frac{1}{10} = \square$	$\frac{9}{10}$ (or equiv)	1	Y5 Spring Test 6
9	$\square = (14 + 8) \div 11$	2	1	Y6 Spring Test 1
10	$\frac{1}{2} \times \frac{1}{3} = \square$	$\frac{1}{6}$ (or equiv)	1	Y6 Spring Test 2
11	$864.233 \div 100 = \square$	8.64233	1	Y6 Spring Test 3
12	$\frac{5}{4} + \frac{5}{8} = \square$	$1\frac{7}{8}$ (or equiv)	1	Y6 Autumn Test 2
13	$6 + 4 \times 2 = \square$	14	1	Y6 Summer Test 1
14	$\frac{5}{8}$ of $32 = \square$	20	1	Y6 Autumn Test 3
15	$\square$ = 30% of 120	36	1	Y6 Spring Test 5
16	$6 \times \square = 8958$	1493	1	Y5 Spring Test 5, Y4 Autumn Test 3
17	$7 + 6 \div (3 \times 2) = \square$	8	1	Y6 Summer Test 1
18	$73\,648 + 976 - 2785 = \square$	71 839	1	Y6 Summer Test 1, Y5 Spring Test 4
19	$5 = 6480 \div \square$	1296	1	Y5 Spring Test 5, Y4 Autumn Test 3
20	$7005 - \square = 1657$	5348	1	Y5 Autumn Test 3, Y3 Autumn Test 1
21	$585 \div 4 = \square$	146.25	1	Y6 Spring Test 6
22	$\square$ = 5% of 80	4	1	Y6 Spring Test 5
23	$6 + 3 \times (3 - 1) = \square$	12	1	Y6 Summer Test 1
24	$17.3 - 9.725 + 8.6 = \square$	16.175	1	Y6 Autumn Test 5, Y6 Summer Test 1
25	$7665 \div 35 = \square$	219	2*	Y6 Autumn Test 6
26	$16 = \square + 2.815$	13.185	1	Y6 Autumn Test 5, Y3 Autumn Test 1
27	$9384 \times 27 = \square$	253 368	2*	Y6 Spring Test 4
28	$872 \div 5 = \square$	174.4	1	Y6 Spring Test 6
		Total marks	**30**	

* award 1 mark if there is one error in the working

Summer Test 1

Name: ..... **Class:** ..... **Date:** .....

1	$14 \times 0 =$ ☐	☐
2	$7^2 =$ ☐	☐
3	$1 - 0.7 =$ ☐	☐
4	$210 \times$ ☐ $= 210\,000$	☐
5	$7 = 35 \div$ ☐	☐
6	$4896 \div 9 =$ ☐	☐
7	☐ $\times 10 = 29 + 31$	☐
8	$\frac{4}{5} + \frac{1}{10} =$ ☐	☐
9	☐ $= (14 + 8) \div 11$	☐
10	$\frac{1}{2} \times \frac{1}{3} =$ ☐	☐
11	$864.233 \div 100 =$ ☐	☐
12	$\frac{5}{4} + \frac{5}{8} =$ ☐	☐
13	$6 + 4 \times 2 =$ ☐	☐
14	$\frac{5}{8}$ of $32 =$ ☐	☐
15	☐ $=$ 30% of 120	☐
16	$6 \times$ ☐ $= 8958$	☐

Summer Test 1 (continued)

17 $7 + 6 \div (3 \times 2) =$ ☐ ☐

18 $73\,648 + 976 - 2785 =$ ☐ ☐

19 $5 = 6480 \div$ ☐ ☐

20 $7005 -$ ☐ $= 1657$ ☐

21 $4 \overline{)\,5\,8\,5}$ ☐

22 ☐ $= 5\%$ of 80 ☐

23 $6 + 3 \times (3 - 1) =$ ☐ ☐

24 $17.3 - 9.725 + 8.6 =$ ☐ ☐

25 $35 \overline{)\,7\,6\,6\,5}$ (2 marks) ☐

26 $16 =$ ☐ $+ 2.815$ ☐

27
$$\begin{array}{r} 9\,3\,8\,4 \\ \times \quad 2\,7 \\ \hline \end{array}$$
(2 marks) ☐

28 $5 \overline{)\,8\,7\,2}$ ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	18	24	26											
– with zeros	20													
÷ or x by 10, 100 or 1000	4	11												
Long x and long ÷	25	27												
÷ with decimal remainders	21	28												
Fractions	8	10	12	14										
Percentages of amounts	15	22												
Missing numbers	4	5	7	16	19	20	26							
Brackets and BIDMAS	9	13	17	18	23	24								
+	7	8	9	12	13	17	18	23	24					
–	3	18	20	23	24	26								
x	1	2	10	13	14	15	17	22	23	27				
÷	4	5	6	7	9	11	14	15	16	17	19	21	22	25	28

Summer Test 2

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with decimal remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions and percentages of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets and the order of operations (BIDMAS)

New: Addition and subtraction of fractions with different denominators

A teaching suggestion

Step 1 Cut one circle into halves and another into thirds. Compare the segments, establishing that halves and thirds do not match.

Step 2 Display $\frac{1}{2} + \frac{1}{3} =$

Step 3 Challenge the children to find a way to make this calculation possible, and guide them towards the idea of using equivalent fractions. They already know that halves and thirds will not work, so get them to try matching the half and the third to cut-out quarters of the circle and agree that they do not match. Repeat this with cut-out fifths, again agreeing they do not match. Try with cut-out sixths, and agree that a half is three sixths and a third is two sixths.

Step 4 Now hold three sixths in one hand and two sixths in the other.

$\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} =$

Step 5 The sixths are now straightforward to add, giving $\frac{5}{6}$

Emphasise that, where applicable, the answer should be written as a mixed number, not as an improper fraction

Step 6 Repeat lots of addition and subtraction examples together using one quarter and one third, one fifth and one half and so on. Encourage the children to work with a partner before working independently.

Question number	Question	Answer	Marks	Related test
1	$702 \times 1 = \square$	702	1	Y4 Autumn Test 6
2	$121 = \square^2$	11	1	Y5 Autumn Test 4
3	$0.8 = \square - 0.2$	1	1	Y5 Summer Test 4
4	$7 \times \square = 49$	7	1	Y4 Autumn Test 3, Y4 Spring Test 6
5	$\square \times 1000 = 53\,000$	53	1	Y5 Autumn Test 5, Y4 Autumn Test 3
6	$\frac{1}{3} - \frac{2}{6} = \square$	0	1	Y5 Spring Test 6
7	$6 = 4200 \div \square$	700	1	Y4 Autumn Test 3, Y4 Summer Test 5
8	$5 \times (12 - 9) = \square$	15	1	Y6 Spring Test 1
9	$60 \div \square = 2 \times 6$	5	1	Y6 Autumn Test 4
10	$\frac{1}{10} \times \frac{3}{4} = \square$	$\frac{3}{40}$ (or equiv)	1	Y6 Spring Test 2
11	$\square = 1.9 \times 1000$	1900	1	Y6 Spring Test 3
12	$\frac{9}{5} - \frac{2}{15} = \square$	$1\frac{10}{15}$ (or equiv)	1	Y6 Autumn Test 2
13	$\frac{3}{5}$ of $35 = \square$	21	1	Y6 Autumn Test 3
14	$3002 - 1405 = \square$	1597	1	Y5 Autumn Test 3
15	$5 - 2 \times 2 = \square$	1	1	Y6 Summer Test 1
16	$36.45 - 9.788 + 289 = \square$	315.662	1	Y6 Autumn Test 5, Y6 Summer Test 1
17	$\frac{1}{5} + \frac{1}{2} = \square$	$\frac{7}{10}$ (or equiv)	1	Y6 Summer Test 2
18	$6498 = \square \times 9$	722	1	Y5 Spring Test 5, Y4 Autumn Test 3
19	$73\,491 - 523 + 89 = \square$	73 057	1	Y6 Summer Test 1, Y5 Spring Test 4
20	$7428 \div 5 = \square$	1485.6	1	Y6 Spring Test 6
21	$7 = \square \div 832$	5824	1	Y5 Spring Test 3, Y4 Autumn Test 3
22	$(6 + 2) \times 2^2 = \square$	32	1	Y6 Summer Test 1
23	35% of $60 = \square$	21	1	Y6 Spring Test 5
24	$\square = \frac{1}{2} + \frac{1}{3}$	$\frac{5}{6}$ (or equiv)	1	Y6 Summer Test 2
25	$8171 \div 4 = \square$	2042.75	1	Y6 Spring Test 6
26	$8448 \div 16 = \square$	528	2*	Y6 Autumn Test 6
27	$\frac{1}{4} + \frac{1}{3} = \square$	$\frac{7}{12}$ (or equiv)	1	Y6 Summer Test 2
28	$3657 \times 91 = \square$	332 787	2*	Y6 Spring Test 4
		Total marks	**30**	

* award 1 mark if there is one error in the working

Summer Test 2

Name: ..... **Class:** ..... **Date:** .....

1	$702 \times 1 =$ ☐	☐
2	$121 =$ ☐^{2}	☐
3	$0.8 =$ ☐ $- 0.2$	☐
4	$7 \times$ ☐ $= 49$	☐
5	☐ $\times 1000 = 53\,000$	☐
6	$\frac{1}{3} - \frac{2}{6} =$ ☐	☐
7	$6 = 4200 \div$ ☐	☐
8	$5 \times (12 - 9) =$ ☐	☐
9	$60 \div$ ☐ $= 2 \times 6$	☐
10	$\frac{1}{10} \times \frac{3}{4} =$ ☐	☐
11	☐ $= 1.9 \times 1000$	☐
12	$\frac{9}{5} - \frac{2}{15} =$ ☐	☐
13	$\frac{3}{5}$ of $35 =$ ☐	☐
14	$3002 - 1405 =$ ☐	☐
15	$5 - 2 \times 2 =$ ☐	☐
16	$36.45 - 9.788 + 289 =$ ☐	☐

Summer Test 2 (continued)

17 $\frac{1}{5} + \frac{1}{2} =$ ☐ ☐

18 $6498 =$ ☐ $\times 9$ ☐

19 $73\,491 - 523 + 89 =$ ☐ ☐

20 $5 \overline{)\,7428}$ ☐

21 $7 =$ ☐ $\div 832$ ☐

22 $(6 + 2) \times 2^2 =$ ☐ ☐

23 35% of 60 = ☐ ☐

24 ☐ $= \frac{1}{2} + \frac{1}{3}$ ☐

25 $4 \overline{)\,8171}$ ☐

26 $16 \overline{)\,8448}$ (2 marks) ☐

27 $\frac{1}{4} + \frac{1}{3} =$ ☐ ☐

28
$$\begin{array}{r} 3\,6\,5\,7 \\ \times \quad 9\,1 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	16	19									
– with zeros	14										
÷ or x by 10, 100 or 1000	5	11									
Long x and long ÷	26	28									
÷ with decimal remainders	20	25									
Fractions	6	10	12	13	17	24	27				
Percentages of amounts	23										
Missing numbers	2	3	4	5	7	9	18	21			
Brackets and BIDMAS	8	15	16	19	22						
+	3	16	17	19	22	24	27				
–	6	8	12	14	15	16	19				
x	1	8	9	10	11	13	15	21	22	23	28
÷	2	4	5	7	9	13	18	20	23	25	26

Summer Test 3

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with different denominators
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with decimal remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions and percentages of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets and the order of operations (BIDMAS)

New: Addition and subtraction of fractions and mixed numbers

A teaching suggestion

Step 1 Display $4\frac{5}{7} + 2\frac{5}{9} =$

Step 2 Explain that the children are going to complete this calculation in three stages.
i) Add the whole numbers. $4 + 2 = 6$
ii) Add the fractions. $\frac{5}{7} + \frac{5}{9} = ?$

Step 3 To complete this calculation we need the fractions to have the same denominator. The easiest way to do this is to find the smallest number that is in both the seven and nine times tables (i.e. the lowest common multiple). Since the lowest common multiple of 7 and 9 is 63, use equivalent fractions:

$$\frac{5}{7} + \frac{5}{9} = \frac{45}{63} + \frac{35}{63} = \frac{80}{63} = 1\frac{17}{63}$$

Step 4 iii) Add the two answers. **Emphasise that the answer must be written as a mixed number.**

$$6 + 1\frac{17}{63} = 7\frac{17}{63}$$

Step 5 Complete lots of examples with the children, and then let them work with a partner before trying independent work.

Question number	Question	Answer	Marks	Related test
1	$8^2 = \square$	64	1	Y5 Autumn Test 4
2	$45 = 5 \times \square$	9	1	Y4 Autumn Test 3, Y2 Spring Test 5
3	$\square + 0.4 = 1$	0.6	1	Y5 Summer Test 4
4	$\frac{5}{12} + \frac{1}{6} = \square$	$\frac{7}{12}$ (or equiv)	1	Y5 Spring Test 6
5	$20 \times 1000 = \square$	20 000	1	Y5 Autumn Test 5
6	$9 = \square \div 8$	72	1	Y4 Autumn Test 3, Y4 Spring Test 2
7	$9173 \times 7 = \square$	64 211	1	Y5 Spring Test 3
8	$\square \times 4 = 3176$	794	1	Y5 Spring Test 5, Y4 Autumn Test 3
9	$(8 - 1) \times (3 + 2) = \square$	35	1	Y6 Spring Test 1
10	$6 \times 6 = \square - 6$	42	1	Y6 Autumn Test 4
11	$\frac{7}{3} + \frac{5}{6} = \square$	$3\frac{1}{6}$ (or equiv)	1	Y6 Autumn Test 2
12	$\square = 0.03 \div 10$	0.003	1	Y6 Spring Test 3
13	$748 + 38\,295 - 6410 = \square$	32 633	1	Y5 Spring Test 4
14	$2\frac{1}{3} + 1\frac{1}{3} = \square$	$3\frac{2}{3}$	1	Y6 Summer Test 3
15	$\frac{7}{8}$ of $64 = \square$	56	1	Y6 Autumn Test 3
16	$\square \div 4 = 1634$	6536	1	Y5 Spring Test 3, Y4 Autumn Test 3
17	$\frac{1}{2} \times \frac{3}{7} = \square$	$\frac{3}{14}$ (or equiv)	1	Y6 Spring Test 2
18	$248.3 - 9.778 = \square$	238.522	1	Y6 Autumn Test 5
19	$1\frac{3}{4} + \frac{3}{4} = \square$	$2\frac{1}{2}$	1	Y6 Summer Test 3
20	$20 - 3 \times (4 + 2) = \square$	2	1	Y6 Summer Test 1
21	$\square = 15\%$ of 280	42	1	Y6 Spring Test 5
22	$865 \div 8 = \square$	108.125	1	Y6 Spring Test 6
23	$\frac{1}{2} - \frac{1}{9} = \square$	$\frac{7}{18}$ (or equiv)	1	Y6 Summer Test 2
24	$9000 - \square = 3581$	5419	1	Y5 Autumn Test 3, Y3 Autumn Test 1
25	$\square = \frac{1}{4} + \frac{1}{5}$	$\frac{9}{20}$ (or equiv)	1	Y6 Summer Test 2
26	$4\frac{1}{5} - 2\frac{3}{5} = \square$	$1\frac{3}{5}$ (or equiv)	1	Y6 Summer Test 3
27	$6765 \div 41 = \square$	165	2*	Y6 Autumn Test 6
28	$8477 \times 53 = \square$	449 281	2*	Y6 Spring Test 4
		Total marks	**30**	

* award 1 mark if there is one error in the working

Summer Test 3

Name: ..... **Class:** ..... **Date:** .....

1	$8^2 =$ ☐	☐
2	$45 = 5 \times$ ☐	☐
3	☐ $+ 0.4 = 1$	☐
4	$\frac{5}{12} + \frac{1}{6} =$ ☐	☐
5	$20 \times 1000 =$ ☐	☐
6	$9 =$ ☐ $\div 8$	☐
7	$9173 \times 7 =$ ☐	☐
8	☐ $\times 4 = 3176$	☐
9	$(8 - 1) \times (3 + 2) =$ ☐	☐
10	$6 \times 6 =$ ☐ $- 6$	☐
11	$\frac{7}{3} + \frac{5}{6} =$ ☐	☐
12	☐ $= 0.03 \div 10$	☐
13	$748 + 38\,295 - 6410 =$ ☐	☐
14	$2\frac{1}{3} + 1\frac{1}{3} =$ ☐	☐
15	$\frac{7}{8}$ of $64 =$ ☐	☐
16	☐ $\div 4 = 1634$	☐

Summer Test 3 (continued)

17 $\frac{1}{2} \times \frac{3}{7} =$ ☐ ☐

18 $248.3 - 9.778 =$ ☐ ☐

19 $1\frac{3}{4} + \frac{3}{4} =$ ☐ ☐

20 $20 - 3 \times (4 + 2) =$ ☐ ☐

21 ☐ $= 15\%$ of 280 ☐

22 $8\overline{)865}$ ☐

23 $\frac{1}{2} - \frac{1}{9} =$ ☐ ☐

24 $9000 -$ ☐ $= 3581$ ☐

25 ☐ $= \frac{1}{4} + \frac{1}{5}$ ☐

26 $4\frac{1}{5} + 2\frac{3}{5} =$ ☐ ☐

27 $41\overline{)6765}$ (2 marks) ☐

28
$$\begin{array}{r} 8477 \\ \times \quad 53 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	13	18										
– with zeros	24											
÷ or x by 10, 100 or 1000	5	12										
Long x and long ÷	27	28										
÷ with decimal remainders	22											
Fractions	4	11	14	15	17	19	23	25	26			
Percentages of amounts	21											
Missing numbers	2	3	6	8	10	16	24					
Brackets and BIDMAS	9	13	20									
+	4	9	10	11	13	14	19	20	25			
–	3	9	13	18	20	23	24	26				
x	1	5	6	7	9	10	15	16	17	20	21	28
÷	2	8	12	15	21	22	27					

Summer Test 4

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with different denominators and mixed numbers
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Formal written method for short multiplication and short division with decimal remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions and percentages of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets and the order of operations (BIDMAS)

New: Multiplication of a one-digit number with up to two decimal places by a whole number

A teaching suggestion

Step 1 Review times tables to 10 × 10 and explain that these are very important in this activity.

Step 2 Ask the children to work out 7 × 8 (56).

Step 3 Ask the children what are 7 dogs × 8 (56 dogs). Repeat with other objects.

Step 4 Now ask the children what are 7 tenths × 8 (56 tenths). Discuss how to write this as a number (5.6). Display 0.7 × 8 = 5.6 and point out that there is one digit after a decimal point in both the question and the answer.

Step 5 Ask the children what are 7 hundredths × 8 (56 hundredths). Discuss how to write this as a number (0.56). Display 0.07 × 8 = 0.56 and point out that there are two digits after a decimal point in both the question and the answer.

Step 6 Complete lots of examples with the children, and then allow them to work with a partner to complete similar examples before trying the work independently.

Question number	Question	Answer	Marks	Related test
1	$27 \times 0 = \square$	0	1	Y4 Autumn Test 4
2	$\square - 0.7 = 0.3$	1	1	Y5 Summer Test 4
3	$12^2 = \square$	144	1	Y5 Autumn Test 4
4	$\square \div 10 = 6200$	62 000	1	Y5 Autumn Test 5, Y4 Autumn Test 3
5	$48 \div \square = 4$	12	1	Y4 Autumn Test 3, Y3 Spring Test 4
6	$\frac{1}{2} - \frac{3}{10} = \square$	$\frac{1}{5}$ (or equiv)	1	Y5 Spring Test 6
7	$17 + 7 = 4 \times \square$	6	1	Y6 Autumn Test 4
8	$(14 - 4) \div (7 - 2) = \square$	2	1	Y6 Spring Test 1
9	$34.2983 \times 100 = \square$	3429.83	1	Y6 Spring Test 3
10	$\frac{1}{3} \times \frac{1}{6} = \square$	$\frac{1}{18}$ (or equiv)	1	Y6 Spring Test 2
11	$\square = \frac{5}{2} - \frac{7}{12}$	$1\frac{11}{12}$ (or equiv)	1	Y6 Autumn Test 2
12	$\frac{9}{10}$ of 80 = $\square$	72	1	Y6 Autumn Test 3
13	$1\frac{4}{7} + 2\frac{4}{7} = \square$	$1\frac{4}{7}$ (or equiv)	1	Y6 Summer Test 3
14	$93.4 + 26 - 4.85 = \square$	114.55	1	Y6 Summer Test 1, Y6 Autumn Test 5
15	$\square = 732\,183 - 4468$	727 715	1	Y5 Spring Test 4
16	$6 + 3^2 \div (7 + 2) = \square$	7	1	Y6 Summer Test 1
17	$3\frac{3}{10} + 1\frac{7}{10} = \square$	$1\frac{3}{5}$ (or equiv)	1	Y6 Summer Test 3
18	$837 \div 4 = \square$	209.25	1	Y6 Spring Test 6
19	$\frac{1}{3} + \frac{1}{5} = \square$	$\frac{8}{15}$ (or equiv)	1	Y6 Summer Test 2
20	$0.02 \times 4 = \square$	0.08	1	Y6 Summer Test 4
21	40% of 250 = $\square$	100	1	Y6 Spring Test 5
22	$\square = 4000 - 2472$	1528	1	Y5 Autumn Test 3
23	$0.1 \times 6 = \square$	0.6	1	Y6 Summer Test 4
24	$1496 = 8 \times \square$	187	1	Y5 Spring Test 5, Y4 Autumn Test 3
25	$9876 \div \square = 6$	1646	1	Y5 Spring Test 5, Y4 Autumn Test 3
26	$9656 \div 34 = \square$	284	2*	Y6 Autumn Test 6
27	$9346 \times 47 = \square$	439 262	2*	Y6 Spring Test 4
28	$0.07 \times 2 = \square$	0.14	1	Y6 Summer Test 4
	Total marks		**30**	

* award 1 mark if there is one error in the working

Summer Test 4

Name: ..... **Class:** ..... **Date:** .....

1	$27 \times 0 =$ ☐	☐
2	☐ $- 0.7 = 0.3$	☐
3	$12^2 =$ ☐	☐
4	☐ $\div 10 = 6200$	☐
5	$48 \div$ ☐ $= 4$	☐
6	$\frac{1}{2} - \frac{3}{10} =$ ☐	☐
7	$17 + 7 = 4 \times$ ☐	☐
8	$(14 - 4) \div (7 - 2) =$ ☐	☐
9	$34.2983 \times 100 =$ ☐	☐
10	$\frac{1}{3} \times \frac{1}{6} =$ ☐	☐
11	☐ $= \frac{5}{2} - \frac{7}{12}$	☐
12	$\frac{9}{10}$ of $80 =$ ☐	☐
13	$1\frac{4}{7} + 2\frac{4}{7} =$ ☐	☐
14	$93.4 + 26 - 4.85 =$ ☐	☐
15	☐ $= 732\,183 - 4468$	☐
16	$6 + 3^2 \div (7 + 2) =$ ☐	☐

Summer Test 4 (continued)

17 $3\frac{3}{10} - 1\frac{7}{10} =$ ☐ ☐

18 $4 \overline{)837}$ ☐

19 $\frac{1}{3} + \frac{1}{5} =$ ☐ ☐

20 $0.02 \times 4 =$ ☐ ☐

21 40% of 250 = ☐ ☐

22 ☐ $= 4000 - 2472$ ☐

23 $0.1 \times 6 =$ ☐ ☐

24 $1496 = 8 \times$ ☐ ☐

25 $9876 \div$ ☐ $= 6$ ☐

26 $34 \overline{)9656}$ (2 marks) ☐

27
$$\begin{array}{r} 9346 \\ \times \quad 47 \\ \hline \end{array}$$
(2 marks) ☐

28 $0.07 \times 2 =$ ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	14	15										
– with zeros	22											
÷ or x by 10, 100 or 1000	4	9										
Long x and long ÷	26	27										
÷ with decimal remainders	18											
Fractions	6	10	11	12	13	17	19					
Percentages of amounts	21											
Missing numbers	2	4	5	7	24	25						
Brackets and BIDMAS	8	14	16									
+	2	7	13	14	16	19						
–	6	8	11	14	15	17	22					
x	1	3	4	9	10	12	16	20	21	23	27	28
÷	5	7	8	12	16	18	21	24	25	26		

Summer Test 5

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with different denominators and mixed numbers
- Complements of 1
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Multiplication of a one-digit number with up to two decimal places by a whole number
- Formal written method for short multiplication and short division with decimal remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions
- Finding fractions and percentages of amounts
- Square and cube numbers
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets and the order of operations (BIDMAS)

New: Division of proper fractions by a whole number

A teaching suggestion

Step 1 Display $\frac{1}{3} \div 2 = \square$ and a circle cut into thirds. Hold up one third and ask the children to discuss what they are being asked to do. Agree that they are being asked to cut the third into two pieces.

Step 2 Cut the third into two pieces and agree that this is a sixth. Match up to a circle cut into sixths to demonstrate that this is correct.

Step 3 Write $\frac{1}{3} \div 2 = \frac{1}{6}$ and emphasise the relationship of $3 \times 2 = 6$.

Step 4 Display $\frac{2}{5} \div 3 = \square$ and a circle cut into fifths. Hold up two fifths and ask the children to discuss what they are being asked to do. Agree that they are being asked to cut each fifth into three equal pieces.

Step 5 Cut each of the fifths into three equal pieces and agree that these are fifteenths. Match up to a circle cut into fifteenths to demonstrate that this is correct.

Step 6 Write $\frac{2}{5} \div 3 = \frac{2}{15}$ and emphasise the relationship of $5 \times 3 = 15$.

Step 7 Complete examples together until the children are confident that they multiply the denominator by the divisor.

Question number	Question	Answer	Marks	Related test
1	$\square = 412 \div 1$	412	1	Y4 Autumn Test 6
2	$72 \div \square = 12$	6	1	Y4 Autumn Test 3, Y4 Summer Test 2
3	$90 \times \square = 9000$	100	1	Y5 Autumn Test 5, Y4 Autumn Test 3
4	$\square + 0.6 = 1$	0.4	1	Y5 Summer Test 4, Y3 Autumn Test 1
5	$10 \times (11 + 5) = \square$	160	1	Y6 Spring Test 1
6	$132 = \square \times 11$	12	1	Y4 Autumn Test 3, Y4 Autumn Test 5
7	$22 + \square = 5 \times 6$	8	1	Y6 Autumn Test 4
8	$\frac{3}{4} + \frac{2}{8} = \square$	1 (or equiv)	1	Y5 Spring Test 6
9	$1622 = 3000 - \square$	1378	1	Y5 Autumn Test 3, Y3 Autumn Test 1
10	$\frac{3}{8} + \frac{3}{2} = \square$	$1\frac{7}{8}$ (or equiv)	1	Y6 Autumn Test 2
11	$1478.264 \div 1000 = \square$	1.478264	1	Y6 Spring Test 3
12	$\frac{2}{5} \times \frac{3}{4} = \square$	$\frac{3}{10}$ (or equiv)	1	Y6 Spring Test 2
13	$\square = \frac{4}{7}$ of 42	24	1	Y6 Autumn Test 3
14	$382 - 4935 + 78\,529 = \square$	73 976	1	Y6 Summer Test 1, Y5 Spring Test 4
15	$0.3 \times 3 = \square$	0.9	1	Y6 Summer Test 4
16	$\frac{1}{2} + \frac{1}{7} = \square$	$\frac{9}{14}$ (or equiv)	1	Y6 Summer Test 2
17	$40 - (3 + 5^2) \div 4 = \square$	33	1	Y6 Summer Test 1
18	$637.2 - 28.35 + 8.8 = \square$	617.65	1	Y6 Summer Test 1, Y6 Autumn Test 5
19	$713 \div 5 = \square$	142.6	1	Y6 Spring Test 6
20	$\square = \frac{1}{4} \div 2$	$\frac{1}{8}$ (or equiv)	1	Y6 Summer Test 5
21	15% of $900 = \square$	135	1	Y6 Spring Test 5
22	$4\frac{4}{6} - 3\frac{5}{6} = \square$	$\frac{5}{6}$ (or equiv)	1	Y6 Summer Test 3
23	$0.04 \times 2 = \square$	0.08	1	Y6 Summer Test 4
24	$\frac{1}{2} \div 3 = \square$	$\frac{1}{6}$ (or equiv)	1	Y6 Summer Test 5
25	$3456 \div 27 = \square$	128	2*	Y6 Autumn Test 6
26	$4\frac{3}{9} - 2\frac{7}{9} = \square$	$7\frac{1}{9}$ (or equiv)	1	Y6 Summer Test 3
27	$\frac{2}{7} \div 5 = \square$	$\frac{2}{35}$ (or equiv)	1	Y6 Summer Test 5
28	$2195 \times 58 = \square$	127 310	2*	Y6 Spring Test 4
		Total marks	**30**	

* award 1 mark if there is one error in the working

Summer Test 5

Name: ..... **Class:** ..... **Date:** .....

1	$\square = 412 \div 1$	☐
2	$72 \div \square = 12$	☐
3	$90 \times \square = 9000$	☐
4	$\square + 0.6 = 1$	☐
5	$10 \times (11 + 5) = \square$	☐
6	$132 = \square \times 11$	☐
7	$22 + \square = 5 \times 6$	☐
8	$\frac{3}{4} + \frac{2}{8} = \square$	☐
9	$1622 = 3000 - \square$	☐
10	$\frac{3}{8} + \frac{3}{2} = \square$	☐
11	$1478.264 \div 1000 = \square$	☐
12	$\frac{2}{5} \times \frac{3}{4} = \square$	☐
13	$\square = \frac{4}{7}$ of 42	☐
14	$382 - 4935 + 78\,529 = \square$	☐
15	$0.3 \times 3 = \square$	☐
16	$\frac{1}{2} + \frac{1}{7} = \square$	☐

Summer Test 5 (continued)

17 $40 - (3 + 5^2) \div 4 =$ ☐ ☐

18 $637.2 - 28.35 + 8.8 =$ ☐ ☐

19 $5 \overline{)713}$ ☐

20 ☐ $= \frac{1}{4} \div 2$ ☐

21 15% of 900 = ☐ ☐

22 $4\frac{4}{6} - 3\frac{5}{6} =$ ☐ ☐

23 $0.04 \times 2 =$ ☐ ☐

24 $\frac{1}{2} \div 3 =$ ☐ ☐

25 $27 \overline{)3456}$ (2 marks) ☐

26 $4\frac{3}{9} + 2\frac{7}{9} =$ ☐ ☐

27 $\frac{2}{7} \div 5 =$ ☐ ☐

28
$$\begin{array}{r} 2195 \\ \times \quad 58 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	14	18											
– with zeros	9												
÷ or x by 10, 100 or 1000	3	11											
Long x and long ÷	25	28											
÷ with decimal remainders	19												
Fractions	8	10	12	13	16	20	22	24	26	27			
Percentages of amounts	21												
Missing numbers	2	3	4	6	7	9							
Brackets and BIDMAS	5	14	17	18									
+	5	8	10	14	16	17	18	26					
–	4	7	9	14	17	18	22						
x	5	7	12	13	15	17	21	23	28				
÷	1	2	3	6	11	13	17	19	20	21	24	25	27

Summer Test 6

Teacher guidance

Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with more than four digits
- Addition and subtraction of whole numbers and mixed decimals
- Addition and subtraction of fractions with different denominators and mixed numbers
- Complements of 1
- Square and cube numbers
- Multiplication and division of whole numbers and decimals by 10, 100 and 1000
- Multiplication of a one-digit number with up to two decimal places by a whole number
- Formal written method for short multiplication and short division with decimal remainders
- Formal written method for long multiplication and long division by a two-digit number
- Multiplication of pairs of simple fractions and division of fractions by a whole number
- Finding fractions and percentages of amounts
- Missing number calculations, including balanced calculations, with all four operations
- Calculations with brackets and the order of operations (BIDMAS)

There are no new skills. This is the end of year test.

Question number	Question	Answer	Marks	Related test
1	$9 \times 0 = \square$	0	1	Y4 Autumn Test 4
2	$\square + 0.9 = 1$	0.1	1	Y5 Summer Test 4, Y3 Autumn Test 1
3	$81 = \square^2$	9	1	Y5 Autumn Test 4
4	$72 \div \square = 9$	8	1	Y4 Autumn Test 3, Y4 Spring Test 2
5	$30 - 20 = \square \div 3$	30	1	Y6 Autumn Test 4
6	$\frac{7}{15} - \frac{2}{5} = \square$	$\frac{1}{15}$ (or equiv)	1	Y5 Spring Test 6
7	$\frac{1}{3} \times \frac{1}{4} = \square$	$\frac{1}{12}$ (or equiv)	1	Y6 Spring Test 2
8	$\square = 5^3$	125	1	Y5 Spring Test 1
9	$(9 - 4) \times (12 - 7) = \square$	25	1	Y6 Spring Test 1
10	$\frac{25}{9} - \frac{4}{3} = \square$	$1\frac{4}{9}$ (or equiv)	1	Y6 Autumn Test 2
11	$3861 = \square \times 9$	429	1	Y5 Spring Test 5, Y4 Autumn Test 3
12	$\frac{5}{9}$ of $63 = \square$	35	1	Y6 Autumn Test 3
13	$7.32878 \times 1000 = \square$	7328.78	1	Y6 Spring Test 3
14	$6.1 - 8.563 + 175.4 = \square$	172.937	1	Y6 Autumn Test 5, Y6 Summer Test 1
15	$\square = 0.07 \times 3$	0.21	1	Y6 Summer Test 4
16	$4000 - 2393 = \square$	1607	1	Y5 Autumn Test 3
17	$2583 \div 8 = \square$	322.875	1	Y6 Spring Test 6
18	$(2^3 + 4) - 5 \times 2 = \square$	2	1	Y6 Summer Test 1
19	$49\,432 - 8966 + 472 = \square$	40 938	1	Y6 Summer Test 1, Y5 Spring Test 4
20	$\frac{1}{6} \div 2 = \square$	$\frac{1}{12}$ (or equiv)	1	Y6 Summer Test 5
21	$619 = \square \div 8$	4952	1	Y5 Spring Test 3, Y4 Autumn Test 3
22	$8000 - \square = 4273$	3727	1	Y5 Autumn Test 3, Y3 Autumn Test 1
23	$\frac{1}{5} + \frac{1}{6} = \square$	$\frac{11}{30}$ (or equiv)	1	Y6 Summer Test 2
24	$7686 \div 18 = \square$	427	2*	Y6 Autumn Test 6
25	$\square = 0.6 \times 6$	3.6	1	Y6 Summer Test 4
26	35% of $180 = \square$	63	1	Y6 Spring Test 5
27	$8\frac{4}{5} - 2\frac{1}{10} = \square$	$6\frac{7}{10}$ (or equiv)	1	Y6 Summer Test 3
28	$8968 \times 79 = \square$	708 472	2*	Y6 Spring Test 4
		Total marks	**30**	

* award 1 mark if there is one error in the working

Summer Test 6

Name: ..... **Class:** ..... **Date:** .....

1	$9 \times 0 = \square$	☐
2	$\square + 0.9 = 1$	☐
3	$81 = \square^{2}$	☐
4	$72 \div \square = 9$	☐
5	$30 - 20 = \square \div 3$	☐
6	$\frac{7}{15} - \frac{2}{5} = \square$	☐
7	$\frac{1}{3} \times \frac{1}{4} = \square$	☐
8	$\square = 5^{3}$	☐
9	$(9 - 4) \times (12 - 7) = \square$	☐
10	$\frac{25}{9} - \frac{4}{3} = \square$	☐
11	$3861 = \square \times 9$	☐
12	$\frac{5}{9}$ of $63 = \square$	☐
13	$7.32878 \times 1000 = \square$	☐
14	$6.1 - 8.563 + 175.4 = \square$	☐
15	$\square = 0.07 \times 3$	☐
16	$4000 - 2393 = \square$	☐

Summer Test 6 (continued)

17 $8\overline{)2583}$ ☐

18 $(2^3 + 4) - 5 \times 2 =$ ☐ ☐

19 $49\,432 - 8966 + 472 =$ ☐ ☐

20 $\frac{1}{6} \div 2 =$ ☐ ☐

21 $619 =$ ☐ $\div 8$ ☐

22 $8000 -$ ☐ $= 4273$ ☐

23 $\frac{1}{5} + \frac{1}{6} =$ ☐ ☐

24 $18\overline{)7686}$ (2 marks) ☐

25 ☐ $= 0.6 \times 6$ ☐

26 35% of 180 = ☐ ☐

27 $8\frac{4}{5} - 2\frac{1}{10} =$ ☐ ☐

28
$$\begin{array}{r} 8968 \\ \times \quad 79 \\ \hline \end{array}$$
(2 marks) ☐

Total marks	/30

How well did you do?

Colour the numbers of the questions you got correct.

± with correct place value	14	19											
– with zeros	16	22											
÷ or x by 10, 100 or 1000	13												
Long x and long ÷	24	28											
÷ with decimal remainders	17												
Fractions	6	7	10	12	20	23	27						
Percentages of amounts	26												
Missing numbers	2	3	4	5	11	21	22						
Brackets and BIDMAS	9	14	18	19									
+	14	18	19	23									
–	2	5	6	9	10	14	16	18	19	22	27		
x	1	5	7	8	9	12	13	15	18	21	25	26	28
÷	3	4	11	12	17	20	24	26					