# Autumn Test 1

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator, within 1
- Multiplication and division to  $12\,{\times}\,12$  including derivatives of multiples of 100



- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1
- Formal written method for short multiplication (to HTO) and short division (to TO)
- Missing number statements with all four operations

## Review: Division of two-digit numbers by 10 or 100

#### A teaching suggestion



Display  $84 \div 10 =$ 

Explain that another way to write  $84 \div 10$  is  $\frac{84}{10}$ , where the line represents the division sign and the number says 'eighty-four tenths'.

Step3

Explain that another way to write eightyfour tenths is to use a decimal point. Display HTO.t and explain that t stands for tenths, and that everything after the decimal point is part of a whole number.  $\frac{84}{10} = 8.4$ 

Repeat with similar calculations (e.g.  $93 \div 10 = \frac{93}{10} = 9.3$ ).

#### An alternative suggestion



Display  $71 \div 100 =$ 

Explain that another way to write  $71 \div 100 = \text{is } \frac{71}{100}$ , where the line represents the division sign and the number says 'seventy-one hundredths'.



Explain that another way to write seventyone hundredths is to use a decimal point. Display HTO.th and explain that t stands for tenths and h for hundredths, and that everything after the decimal point is part of a whole number.  $\frac{71}{100} = 0.71$ 



Repeat with similar calculations (e.g.  $3 \div 100 = \frac{3}{100} = 0.03$ ).

Question number	Question	Answer	Marks	Related test
1	4 × 11 =	44	1	Y4 Autumn Test 5
2	$\square = 7 \times 1$	7	1	Y4 Autumn Test 6
3	36 ÷ 12 =	3	1	Y4 Summer Test 2
4	0 × 20 =	0	1	Y4 Autumn Test 4
5	$\frac{1}{3}$ of 33 =	11	1	Y2 Summer Test 5
6	84 = 🗌 × 7	12	1	Y4 Autumn Test 3, Y4 Summer Test 2
7	47 ÷ 1 =	47	1	Y4 Autumn Test 6
8	493 + 382 =	875	1	Y4 Spring Test 1
9	60 × 9 =	540	1	Y4 Spring Tests 2 and 4, Y3 Spring Test 2
10	= 327 - 261	66	1	Y4 Spring Test 3
11	21 + = 90	69	1	Y3 Autumn Test 1, Y3 Autumn Test 3
12	300 × 8 =	2400	1	Y4 Summer Test 5, Y3 Summer Test 3
13	86 = 38	48	1	Y3 Autumn Test 1, Y3 Autumn Test 3
14	56 ÷ 4 =	14	1	Y4 Autumn Test 2
15	6384 + 2576 =	8960	1	Y4 Spring Test 1
16	2 ÷ 10 =	0.2	1	Y5 Autumn Test 1
17	35 × 7 =	245	1	Y4 Autumn Test 1
18	7120 - 4332 =	2788	1	Y4 Spring Test 3
19	524 × 3 =	1572	1	Y4 Summer Test 1
20	37 ÷ 100 =	0.37	1	Y5 Autumn Test 1
21	$\frac{3}{4}$ of 28 =	21	1	Y3 Autumn Test 4
22	$\Box = 4 \times 27 \times 5$	540	1	Y4 Summer Test 3
23	÷ 3 = 28	84	1	Y4 Autumn Test 1, Y4 Autumn Test 3
24	32 ÷ 10 = 3.2		1	Y5 Autumn Test 1
25	────────────────────────────────────	1	Y4 Autumn Test 2, Y4 Autumn Test 3	
	Total	marks	25	

## Autumn Test 1



## Autumn Test 1 (continued)



## **How well did you do?** Colour the numbers of the questions

you got correct.

Multiples of tables	9	12								
÷ by 10 or 100	16	20	24							
Short x	17	19	23							
Short ÷	14	25								
Fractions	5	21								
Missing numbers	6	11	13	23	25					
+	8	15								
_	10	11	13	18						
x	1	2	4	9	12	17	19	21	22	23
÷	3	5	6	7	14	16	20	21	24	25

## Autumn Test 2

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100  $\,$



- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1
- Formal written method for short multiplication (to HTO) and short division (to TO)
- Division of two-digit numbers by 10 or 100
- Missing number statements with all four operations

## Review: Addition and subtraction of fractions with the same denominator

#### A teaching suggestion



Cut a circle into sixths and count the sixths. Hold up different amounts and ask the children to call out what you are holding (e.g. four sixths).



Hold one sixth in one hand and four sixths in the other hand. Ask the children what you are holding in each hand and then what you are holding altogether. Agree that you are always holding sixths, so:  $\frac{1}{6} + \frac{4}{6} = \frac{5}{6}$ 

Next, hold two sixths in one hand and five sixths in the other hand. Ask the children what you are holding in each hand and then what you are holding altogether. Agree that you are always holding sixths, so:

$$\frac{2}{6} + \frac{5}{6} = \frac{7}{6}$$



Show how the seven sixths can be used to make one circle with one sixth left, and show the children how to write this as a mixed number:  $1\frac{1}{6}$ 

Step5

Repeat lots of examples together, then with a partner, and then working independently.

Question number	Question	Answer	Marks	Related test
1	1 × 15 =	15	1	Y4 Autumn Test 6
2	= 800 × 2	1600	1	Y4 Summer Test 5
3	= 120 ÷ 10	12	1	Y4 Summer Test 2
4	29 ÷ 1 =	29	1	Y4 Autumn Test 6
5	54 = + 49	5	1	Y3 Autumn Test 1, Y3 Autumn Test 3
6	1 × 0 =	0	1	Y4 Autumn Test 4
7	26 = 53	79	1	Y3 Autumn Test 1, Y3 Autumn Test 2
8	4 = 🗌 ÷ 9	36	1	Y4 Autumn Test 3, Y4 Spring Test 2
9	$\frac{2}{6} + \frac{4}{6} = \square$	1 (or equiv) $\frac{6}{6}$	1	Y5 Autumn Test 2
10	37 × 7 =	259	1	Y4 Autumn Test 1
11	731 - 418 =	313	1	Y4 Spring Test 3
12	$\frac{16}{6} - \frac{11}{6} = \square$	$\frac{5}{6}$ (or equiv)	1	Y5 Autumn Test 2
13	87 ÷ 3 =	29	1	Y4 Autumn Test 2
14	85 = 🗌 × 5	17	1	Y4 Autumn Test 2, Y4 Autumn Test 3
15	1799 + 2831 =	4630	1	Y4 Spring Test 1
16	8 ÷ 10 =	0.8	1	Y5 Autumn Test 1
17	$=\frac{2}{4}$ of 12	6	1	Y3 Autumn Test 4
18	426 × 6 =	2556	1	Y4 Summer Test 1
19	6425 - 1537 =	4888	1	Y4 Spring Test 3
20	63 ÷ 100 =	0.63	1	Y5 Autumn Test 1
21	$ = 2 \times 63 \times 5 $	630	1	Y4 Summer Test 3
22	614 - 🗌 = 293	321	1	Y4 Spring Test 3, Y3 Autumn Test 1
23	$\frac{4}{7} + \frac{9}{7} = \square$	$1^{\frac{6}{7}}$ (or equiv)	1	Y5 Autumn Test 2
24	+ 423 = 802	379	1	Y4 Spring Test 3, Y3 Autumn Test 1
25	61 ÷ 10 =	6.1	1	Y5 Autumn Test 1
	1	īotal marks	25	

## Autumn Test 2



## Autumn Test 2 (continued)



How well did you do? Colour the numbers of the questions you got correct.

Multiples of tables	2	3						
÷ by 10 or 100	3	16	20	25				
Short x	10	18						
Short ÷	13	14						
Fractions	9	12	17	23				
Missing numbers	5	7	8	14	22	24		
+	7	9	15	23				
-	5	11	12	19	22	24		
×	1	2	6	8	10	17	18	21
÷	3	4	13	14	16	17	20	25

#### YEAR 5 ARITHMETIC PRACTICE TESTS

## Autumn Test 3

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100



- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1
- Formal written method for short multiplication (to HTO) and short division (to TO)
- Division of two-digit numbers by 10 or 100
- Missing number statements with all four operations

## New: Understanding a formal written method for subtraction with zeros

#### A teaching suggestion

This is an extension of the 'Pirate Game' (see Year 4 Spring Test 3). It helps to develop conceptual understanding of a formal written method for subtraction. Display the number 500 and explain that this is the treasure the children have. Select three children and give one five cards with '100' written on each.

Select a child to be the pirate and underneath the 500 write '- 265'. Explain that this is what the pirate demands in payment.

Step3

The pirate asks the 'ones' child for 5. They cannot pay so whisper to the 'tens child': 'Lend me some treasure'. The 'tens' child responds: 'I haven't got any!' and whispers to the 'hundreds' child: 'Lend me some treasure'. The 'hundreds' child responds: 'Alright, but I'm only giving you one!' and gives a hundred to the 'tens' child, who immediately swaps it for 10 tens. The 'tens' child then gives the 'ones' child a ten who swaps it for 10 ones.

Alter the displayed sum to show that the 'hundreds' child is now holding 4 hundreds, the 'tens' child is holding 9 tens and the 'ones' child is  $-\frac{2}{2}$   $\frac{5}{6}$   $\frac{5}{5}$ holding 10 ones.

The pirate now demands payment from each child in turn and is paid. The amount remaining is written on the answer line (235).

Play the game with different subtractions. Allow the children to be dramatic!

Question number	Question	Answer	Marks	Related test
1	6 × 0 =	0	1	Y4 Autumn Test 4
2	8 ÷ 1 =	8	1	Y4 Autumn Test 6
3	70 = 🗌 + 20	50	1	Y3 Autumn Test 1, Y2 Autumn Test 4
4	52 × 1 =	52	1	Y4 Autumn Test 6
5	÷ 10 = 4	40	1	Y4 Autumn Test 3, Y2 Autumn Test 2
6	39 × 2 =	78	1	Y4 Autumn Test 1
7	72 ÷ 9 =	8	1	Y4 Spring Test 2
8	$\boxed{} = \frac{11}{9} - \frac{2}{9}$	1 (or equiv)	1	Y4 Autumn Test 5, Y4 Summer Test 2
9	11 × 12 =	132	1	Y4 Autumn Test 5, Y4 Summer Test 2
10	90 ÷ 5 =	18	1	Y4 Autumn Test 2
11	+ <b>37</b> = 62	25	1	Y3 Autumn Test 1, Y3 Autumn Test 2
12	327 × 4 =	1308	1	Y4 Summer Test 1
13	5 ÷ 10 =	0.5	1	Y5 Autumn Test 1
14	7349 + 1775 =	9124	1	Y4 Spring Test 1
15	= 3500 ÷ 7	500	1	Y4 Summer Test 5
16	9425 - 2616 =	6809	1	Y4 Spring Test 3
17	28 ÷ 100 =	0.28	1	Y5 Autumn Test 1
18	$7 \times 2 \times 6 =$	84	1	Y4 Summer Test 3
19	604 - 279 =	325	1	Y5 Autumn Test 3
20	$5 \times 23 \times 8 =$	920	1	Y4 Summer Test 3
21	$\frac{3}{8} + \frac{6}{8} = \square$	$1\frac{1}{8}$ (or equiv)	1	Y5 Autumn Test 2
22	96 = 🗌 × 4	24	1	Y4 Autumn Test 2, Y4 Autumn Test 3
23	64 ÷ 10 =	6.4	1	Y5 Autumn Test 1
24	÷ 6 = 25	150	1	Y4 Autumn Test 1, Y4 Autumn Test 3
25	5006 - 3247 =	1759	1	Y5 Autumn Test 3
		25		

## Autumn Test 3



## Autumn Test 3 (continued)



### How well did you do?

– with zeros	19	25							
Multiples of tables	15								
÷ by 10 or 100	13	17	23						
Short x	6	12	20	24					
Short ÷	10	22							
Fractions	8	21							
Missing numbers	3	5	11	22	24				
+	14	21							
-	3	8	11	16	19	25			
x	1	4	5	6	9	12	18	20	24
÷	2	7	10	13	15	17	22	23	

## Autumn Test 4

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100  $\,$



- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1
- Formal written method for short multiplication (to HTO) and short division (to TO)
- Division of two-digit numbers by 10 or 100
- Missing number statements with all four operations

### **New: Square numbers**

#### A teaching suggestion



Give the children some squared paper.

Use the squares to draw a  $2 \times 2$  square and count the number of squares inside. Show that it has two rows and two columns and that  $2 \times 2 = 4$ .



Ask the children to investigate other squares that they can draw and to make a table of their results.

Rows	Columns	Number of squares
2	2	4



Collect and display the results and explain that these numbers are called 'square numbers' because they make squares!



Chant the square times table  $(1 \times 1 = 1, 2 \times 2 = 4, 3 \times 3 = 9 and so on)$ .



Question number	Question	Answer	Marks	Related test
1	= 5 × 9	45	1	Y4 Spring Test 2
2	$\frac{1}{3}$ of 60 =	20	1	Y2 Summer Test 5
3	1 × 1 =	1	1	Y4 Autumn Test 6
4	48 = 🗌 × 6	8	1	Y4 Autumn Test 3, Y4 Spring Test 4
5	2 <sup>2</sup> =	4	1	Y5 Autumn Test 4
6	84 ÷ 12 =	7	1	Y4 Summer Test 2
7	11 × 0 =	0	1	Y4 Autumn Test 4
8	72 ÷ 3 =	24	1	Y4 Autumn Test 2
9	= 45 ÷ 1	45	1	Y4 Autumn Test 6
10	642 - 353 =	289	1	Y4 Spring Test 3
11	7 ÷ 10 =	0.7	1	Y5 Autumn Test 1
12	315 × 4 =	1260	1	Y4 Summer Test 1
13	$\frac{11}{6} - \frac{4}{6} = \square$	$1\frac{1}{6}$ (or equiv)	1	Y5 Autumn Test 2
14	74 × 7 =	518	1	Y4 Autumn Test 1
15	74 ÷ 100 =	0.74	1	Y5 Autumn Test 1
16	= 304 - 126	178	1	Y5 Autumn Test 3
17	7173 + 1968 =	9141	1	Y4 Spring Test 1
18	$\frac{3}{5} + \frac{4}{5} = \square$	$1\frac{2}{5}$ (or equiv)	1	Y5 Autumn Test 2
19	$\square = 33 \times 5 \times 6$	990	1	Y4 Summer Test 3
20	9 <sup>2</sup> =	81	1	Y5 Autumn Test 4
21	4 × 🗌 = 76	19	1	Y4 Autumn Test 2, Y4 Autumn Test 3
22	42 ÷ 10 =	4.2	1	Y5 Autumn Test 1
23	395 = 416	811	1	Y4 Spring Test 1, Y3 Autumn Test 1
24	7000 - 2613 =	4387	1	Y5 Autumn Test 3
25	$= 7^2$	49	1	Y5 Autumn Test 4
		Total marks	25	

## Autumn Test 4



## **Autumn Test 4** (continued)



## How well did you do? Colour the numbers of the questions

you got correct.

– with zeros	16	24							
Square numbers	5	20	25						
x by 0; x or ÷ by 1	3	7	9						
÷ by 10 or 100	11	15	22						
Short x	12	14	19						
Short ÷	8	21							
Fractions	2	13	18						
Missing numbers	4	21	23						
+	17	18	23						
-	10	13	16	24					
x	1	3	5	7	12	14	19	20	25
÷	2	4	6	8	9	11	15	21	22

#### YEAR 5 ARITHMETIC PRACTICE TESTS

## Autumn Test 5

### **Teacher guidance**

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100
- Multiplication of three numbers



- Formal written method for short multiplication (to HTO) and short division (to TO)
- Division of two-digit numbers by 10 or 100
- Missing number statements with all four operations

## New: Multiplication and division of whole numbers by 10, 100 or 1000

#### A suggestion for teaching the multiplication of whole numbers by 10, 100 or 1000

Display  $4 \times 100 =$ 

Explain that another way to say this is 4 hundreds, which is written as 400.



Extend this to 54  $\times$  100 is 54 hundreds, which is written as 5400.

Apply the same logic for multiplying by 10 and 1000.

#### A suggestion for teaching the division of whole numbers by 10, 100 or 1000



Display  $85 \div 1000 =$ 

Explain that another way to write  $85 \div 1000$  is  $\frac{85}{1000}$ , where the line represents the division sign and the number says 'eighty-five thousandths'.



Explain that another way to write eighty-five thousandths is to use a decimal point. Display HTO.th th and explain that t stands for tenths, h for hundredths and th for thousandths.  $\frac{85}{1000} = 0.085$ 



Repeat with similar calculations (e.g.  $6 \div 1000 = \frac{6}{1000} = 0.006$ ).

Question number	Question	Answer	Marks	Related test
1	$ = \frac{1}{4} \text{ of } 8 $	2	1	Y2 Summer Test 1
2	17 × 1 =	17	1	Y4 Autumn Test 6
3	÷ 3 = 6	18	1	Y4 Autumn Test 3, Y3 Spring Test 1
4	361 + 254 =	615	1	Y4 Spring Test 1
5	$\frac{7}{10} - \frac{4}{10} =$	$\frac{3}{10}$ (or equiv)	1	Y5 Autumn Test 2
6	$\Box = 26 \times 0$	0	1	Y4 Autumn Test 4
7	731 - 325 =	406	1	Y4 Spring Test 3
8	90 ÷ 6 =	15	1	Y4 Autumn Test 2
9	5 <sup>2</sup> =	25	1	Y5 Autumn Test 4
10	24 = 🗌 × 2	12	1	Y4 Autumn Test 3, Y2 Spring Test 1
11	424 × 3 =	1272	1	Y4 Summer Test 1
12	702 - 344 =	358	1	Y5 Autumn Test 3
13	1 ÷ 10 =	0.1	1	Y5 Autumn Test 1
14	6320 + 1993 =	8313	1	Y4 Spring Test 1
15	$\boxed{}=6^2$	36	1	Y5 Autumn Test 4
16	$\frac{4}{11} + \frac{10}{11} =$	<b>1</b> <sup>3</sup> / <sub>11</sub> (or equiv)	1	Y5 Autumn Test 2
17	5 × 17 × 4 =	340	1	Y4 Summer Test 3
18	62 ÷ 100 =	0.62	1	Y5 Autumn Test 1
19	7428 - 2848 =	4580	1	Y4 Spring Test 3
20	74 × 100 =	7400	1	Y5 Autumn Test 5
21	4 × 🗌 = 92	23	1	Y4 Autumn Test 2, Y4 Autumn Test 3
22	2828 = 4213	7041	1	Y4 Spring Test 3, Y3 Autumn Test 1
23	85 ÷ 10 =	8.5	1	Y5 Autumn Test 1
24	4000 - 1321 =	2679	1	Y5 Autumn Test 3
25	= 735 ÷ 1000	0.735	1	Y5 Autumn Test 5
		Total marks	25	

## Autumn Test 5



### Autumn Test 5 (continued)



## **How well did you do?** Colour the numbers of the questions

you got correct.

– with zeros	12	24						
Multiples of tables	20							
Square numbers	9	15						
÷ or x by 10, 100 or 1000	13	18	20	23	25			
Short x	11							
Short ÷	8	21						
Fractions	1	5	16					
Missing numbers	3	10	21	22				
+	4	14	16	22				
-	5	7	12	19	24			
x	2	3	6	9	11	15	17	20
÷	1	8	10	13	18	21	23	25

## Autumn Test 6

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12\,{\times}\,12$  including derivatives of multiples of 100
- Multiplication of three numbers

## New: Division with remainders

#### A teaching suggestion



Display 77  $\div$  3 and then set out the sum for formal division.

3 7 7

First ask, 'How many threes in 7 (tens)?' Agree that 7 tens has two groups of 3 tens and 1 ten left over. Write this in, demonstrating where to write the answers.

Now ask: 'How many threes in 17?' and agree that there are 5 threes and 2 left over. Demonstrate how to write the remainder.



Make connections with other ways to write the remainder, e.g.  $25\frac{2}{3}$ , 25.667, if appropriate and accept correct answers giving remainders in these ways.

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.



- Multiplication by 0; multiplication and division by 1; square numbers
- Formal written method for short multiplication (to HTO) and short division (to TO)
- Multiplication and division of whole numbers by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	$\frac{1}{3}$ of 6 =	2	1	Y2 Summer Test 5
2	× 10 = 70	7	1	Y4 Autumn Test 3, Y2 Autumn Test 3
3	29 ÷ 1 =	29	1	Y4 Autumn Test 6
4	= 351 - 146	205	1	Y4 Spring Test 3
5	$\frac{7}{5} - \frac{2}{5} = \square$	1 (or equiv)	1	Y5 Autumn Test 2
6	17 × 0 =	0	1	Y4 Autumn Test 4
7	39 + 48 =	87	1	Y4 Spring Test 1
8	= 602 - 295	307	1	Y5 Autumn Test 3
9	45 ÷ 9 =	5	1	Y4 Spring Test 2
10	3 ÷ 10 =	0.3	1	Y5 Autumn Test 1
11	= 700 × 4	2800	1	Y4 Spring Test 6, Y4 Summer Test 5
12	426 × 6 =	2556	1	Y4 Summer Test 1
13	8 <sup>2</sup> =	64	1	Y5 Autumn Test 4
14	6 × 31 × 5 =	930	1	Y4 Summer Test 3
15	396 = 521	917	1	Y4 Spring Test 1, Y3 Autumn Test 1
16	$\frac{3}{8} + \frac{10}{8} =$	$1\frac{5}{8}$ (or equiv)	1	Y5 Autumn Test 2
17	81 = 2	9	1	Y5 Autumn Test 4, Y4 Autumn Test 3
18	7 × 1000 =	7000	1	Y5 Autumn Test 5
19	1457 + 7255 =	8712	1	Y4 Spring Test 1
20	$\frac{3}{4}$ of 60 =	45	1	Y3 Autumn Test 4
21	87 ÷ 5 =	17 r2	1	Y5 Autumn Test 6
22	400 - 246 =	154	1	Y5 Autumn Test 3
23	36 = 🗌 ÷ 4	144	1	Y4 Autumn Test 1, Y4 Autumn Test 3
24	654 ÷ 100 =	6.54	1	Y5 Autumn Test 5
25	75 ÷ 4 =	18 r3	1	Y5 Autumn Test 6
		25		

## Autumn Test 6



## Autumn Test 6 (continued)



## **How well did you do?** Colour the numbers of the questions

you got correct.

– with zeros	8	22								
Multiples of tables	11	18								
Square numbers	13	17								
÷ or x by 10, 100 or 1000	2	10	18	24						
Short x	12	23								
Short ÷, including r	21	25								
Fractions	1	5	16	20						
Missing numbers	2	15	17	23						
+	7	15	16	19						
-	4	5	8	22						
x	6	11	12	13	14	18	20	23		
÷	1	2	3	9	10	17	20	21	24	25

#### YEAR 5 ARITHMETIC PRACTICE TESTS

# **Spring Test 1**

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \,{\times}\, 12$  including derivatives of multiples of 100
- Multiplication of three numbers

### **New: Cube numbers**

#### A teaching suggestion



Give the children cubes to use. Discuss the properties of a cube and agree that all the faces are square and that all the edges are the same length.



Use eight single cubes to build a  $2 \times 2 \times 2$ cube and count the cubes that you used. Show that it has two rows, two columns and two layers, and that  $2 \times 2 \times 2 = 8$ .



Ask the children to investigate other cubes that they can build and to make a table of their results.

Rows	Columns	Layers	Number of cubes
2	2	2	8



Collect and display the results and explain that these numbers are called 'cube numbers' because they make a cube! (Using cubes to investigate cube numbers makes the concept and mathematical vocabulary more memorable for children.)

Introduce the notation  $3^3$  for 3 multiplied by itself 3 times (hence the <sup>3</sup>) where  $3^3 = 3 \times 3 \times 3 = 27$ .



- Multiplication by 0; multiplication and division by 1; square numbers
- Formal written method for short multiplication (to HTO) and short division (to TO), including with remainders
- Multiplication and division of whole numbers by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	19 × 1 =	19	1	Y4 Autumn Test 6
2	= 35 ÷ 7	5	1	Y4 Spring Test 6
3	473 × 100 =	47 300	1	Y5 Autumn Test 5
4	4 <sup>2</sup> =	16	1	Y5 Autumn Test 4
5	701 - 523 =	178	1	Y5 Autumn Test 3
6	9 ÷ 10 =	0.9	1	Y5 Autumn Test 5
7	2 × 0 =	0	1	Y4 Autumn Test 4
8	$\frac{17}{10} - \frac{9}{10} =$	$\frac{8}{10}$ (or equiv)	1	Y5 Autumn Test 2
9	= 28 ÷ 1	28	1	Y4 Autumn Test 6
10	12 <sup>2</sup> =	144	1	Y5 Autumn Test 4
11	□×6 = 72	12	1	Y4 Autumn Test 3, Y4 Spring Test 4
12	444 = 732 -	288	1	Y4 Spring Test 3, Y3 Autumn Test 1
13	$\frac{2}{4}$ of 20 =	10	1	Y3 Autumn Test 4
14	6314 + 2789 =	9103	1	Y4 Spring Test 1
15	$\frac{5}{6} + \frac{5}{6} = \boxed{}$	$1\frac{4}{6}$ (or equiv)	1	Y5 Autumn Test 2
16	400 × 8 =	3200	1	Y4 Summer Test 5, Y3 Summer Test 3
17	$=\frac{1}{3}$ of 42	14	1	Y2 Summer Test 5
18	146 × 7 =	1022	1	Y4 Summer Test 1
19	6512 - 1826 =	4686	1	Y4 Spring Test 3
20	98 ÷ 6 =	16 r2	1	Y5 Autumn Test 6
21	5 × 46 × 2 =	460	1	Y4 Summer Test 3
22	48 = ÷ 8	384	1	Y4 Autumn Test 3, Y3 Summer Test 3
23	2 <sup>3</sup> =	8	1	Y5 Spring Test 1
24	+ 492 = 781	289	1	Y4 Spring Test 3, Y3 Autumn Test 1
25	324 ÷ 100 =	3.24	1	Y5 Autumn Test 5
26	896 × 9 =	8064	1	Y4 Summer Test 1
27	8000 - 2145 =	5855	1	Y5 Autumn Test 3
28	$= 5^{3}$	125	1	Y5 Spring Test 1
		Total marks	28	

## **Spring Test 1**



## Spring Test 1 (continued)



## Total marks



### How well did you do?

– with zeros	5	27										
Multiples of tables	16											
Square and cube numbers	4	10	23	28								
÷ or x by 10, 100 or 1000	3	6	25									
Short x	18	22	26									
Short ÷, including r	17	20										
Fractions	8	13	15	17								
Missing numbers	11	12	22	24								
+	14	15										
-	5	8	12	19	24	27						
x	1	3	4	7	10	13	16	18	21	23	26	28
÷	2	6	9	11	13	17	20	22	25			

## **Spring Test 2**

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100  $\,$
- Multiplication of three numbers



- Multiplication by 0; multiplication and division by 1; square numbers
- Formal written method for short multiplication (to HTO) and short division (to TO), including with remainders
- Multiplication and division of whole numbers by 10, 100 or 1000
- Missing number statements with all four operations

### New: Multiplication and division of decimals by 10, 100 or 1000

#### A teaching suggestion

Use a fixed decimal point and digit cards that can be moved to illustrate the method.



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

Display  $4.56 \times 1000$ . Establish that the number will become 1000 times bigger. This means that the digits in the number move three columns to the left. Move 1 = 45.6 Move 2 = 456. Move 3 = 456\_. so the empty space is filled with a zero giving 4560. which is shown as Th HTO.th becomes Th HTO.th 4.56 4560

Display 8.3 ÷ 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 = 0.83 Move 2 = 0.083 which is shown as Th HTO.th becomes Th HTO.th th 8.3 0.083

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

Question number	Question	Answer	Marks	Related test
1	0 × 6 =	0	1	Y4 Autumn Test 4
2	$= 13 \times 1$	13	1	Y4 Autumn Test 6
3	32 × 10 =	320	1	Y5 Autumn Test 5
4	4 ÷ 10 =	0.4	1	Y5 Autumn Test 5
5	7 × 🗌 = 21	3	1	Y4 Autumn Test 3, Y4 Spring Test 6
6	$\frac{10}{4} - \frac{6}{4} = \square$	1 (or equiv)	1	Y5 Autumn Test 2
7	100 ÷ 1 =	100	1	Y4 Autumn Test 6
8	315 + 486 =	801	1	Y4 Spring Test 1
9	□ × 400 = 1600	4	1	Y4 Autumn Test 3, Y4 Summer Test 5
10	= 7139 - 2436	4703	1	Y4 Spring Test 3
11	6 <sup>2</sup> =	36	1	Y5 Autumn Test 4
12	73 × 1000 =	73 000	1	Y5 Autumn Test 5
13	900 - 702 =	198	1	Y5 Autumn Test 3
14	365 × 8 =	2920	1	Y4 Summer Test 1
15	= 2700 ÷ 3	900	1	Y4 Summer Test 5
16	7873 + 1948 =	9821	1	Y4 Spring Test 1
17	75 ÷ 2 =	37 r1	1	Y5 Autumn Test 6
18	$\frac{4}{7} + \frac{6}{7} = \square$	$1\frac{3}{7}$ (or equiv)	1	Y5 Autumn Test 2
19	730 = 🗌 × 5	146	1	Y4 Autumn Test 2, Y4 Autumn Test 3
20	$21 \times 5 \times 8 =$	840	1	Y4 Summer Test 3
21	3 <sup>3</sup> =	27	1	Y5 Spring Test 1
22	9621 = 3288	6333	1	Y4 Spring Test 3, Y3 Autumn Test 1
23	6.1 × 100 =	610	1	Y5 Spring Test 2
24	94 ÷ 7 =	13 r3	1	Y5 Autumn Test 6
25	= 8 <sup>2</sup>	64	1	Y5 Autumn Test 4
26	9 = 198 ÷	22	1	Y4 Autumn Test 2, Y4 Autumn Test 3
27	4004 - 1265 =	2739	1	Y5 Autumn Test 3
28	26.3 ÷ 100 =	0.263	1	Y5 Spring Test 2
		Total marks	28	

## Spring Test 2



## Spring Test 2 (continued)



### How well did you do?

Colour the numbers of the questions you got correct.

– with zeros	13	27								
Multiples of tables	9	15								
Square and cube numbers	11	21	25							
÷ or x by 10, 100 or 1000	3	4	12	23	28					
Short x	14									
Short ÷, including r	17	19	24	26						
Fractions	6	18								
Missing numbers	5	9	19	22	26					
+	8	16	18							
-	6	10	13	22	27					
x	1	2	3	11	12	14	20	21	23	25
÷.	4	5	7	9	15	17	19	24	26	28

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#### YEAR 5 ARITHMETIC PRACTICE TESTS

# **Spring Test 3**

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100  $\,$
- Multiplication of three numbers

## New: Multiplication of up to four digits by a single-digit number

#### A teaching suggestion

The children are already familiar with HTO  $\times$  O (see Y4 Summer Test 1). Display:

 $\times \frac{7587}{5}$ 



Remind the children to work with the ones column first.  $5 \times 7$  is 35, so write the 35 with the 3 in the tens column and the 5 in the ones column (so it still reads as 35).

	7	5	8	7
$\times$				5
				5
			3	

Step3

Next multiply the tens by 5, giving 40 tens, and then add in the extra 3, giving 43 tens. Write the answer, making sure it still reads as 43.

$\times$	7	5	8	7 5
			3	5
	_	4	3	

Step**4** 

Complete the calculation in the same way. After the last multiplication, put the carry figure of 3 into the answer line, giving the final answer 37 935.



Do lots of examples with the children, then encourage them to work with a partner to complete similar calculations. When they are confident, let them work independently.



- Multiplication by 0; multiplication and division by 1; square and cube numbers
- Formal written method for short multiplication (to HTO) and short division (to TO), including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	5 ÷ 1 =	5	1	Y4 Autumn Test 6
2	$= 6 \times 3$	18	1	Y4 Spring Test 4
3	10 × 0 =	0	1	Y4 Autumn Test 4
4	1 <sup>3</sup> =	1	1	Y5 Spring Test 1
5	4000 ÷ 100 =	40	1	Y5 Autumn Test 5
6	36 × 1 =	36	1	Y4 Autumn Test 6
7	4 = 🗌 ÷ 7	28	1	Y4 Autumn Test 3, Y4 Spring Test 6
8	681 - 268 =	413	1	Y4 Spring Test 3
9	$\boxed{} = \frac{6}{9} + \frac{4}{9}$	$1\frac{1}{9}$ (or equiv)	1	Y5 Autumn Test 2
10	7 <sup>2</sup> =	49	1	Y5 Autumn Test 4
11	8 × 12 =	96	1	Y4 Summer Test 2, Y3 Summer Test 3
12	600 - 251 =	349	1	Y5 Autumn Test 3
13	900 × 4 =	3600	1	Y4 Summer Test 5
14	100 = 2	10	1	Y5 Autumn Test 4
15	53 ÷ 4 =	13 r1	1	Y5 Autumn Test 6
16	6175 × 2 =	12 350	1	Y5 Spring Test 3
17	4281 + = 6153	1872	1	Y4 Spring Test 1, Y3 Autumn Test 1
18	$6 \times 41 \times 5 =$	1230	1	Y4 Summer Test 3
19	4 <sup>3</sup> =	64	1	Y5 Spring Test 1
20	$ = \frac{3}{4} \text{ of } 84 $	63	1	Y3 Autumn Test 4
21	6.24 × 10 =	62.4	1	Y5 Spring Test 2
22	3847 = 1965	5812	1	Y4 Spring Test 1, Y3 Autumn Test 1
23	4185 × 5 =	20 925	1	Y5 Spring Test 3
24	98 ÷ 8 =	12 r2	1	Y5 Autumn Test 6
25	4002 - 1463 =	2539	1	Y5 Autumn Test 3
26	9 × 🗌 = 234	26	1	Y4 Autumn Test 2, Y4 Autumn Test 3
27	= 63.2 ÷ 1000	0.0632	1	Y5 Spring Test 2
28	7346 × 6 =	44 076	1	Y5 Spring Test 3
		Total marks	28	

## **Spring Test 3**



## Spring Test 3 (continued)



Total marks

/28

### How well did you do?

– with zeros	12	25													
Multiples of tables	13														
Square and cube numbers	4	10	14	19											
÷ or x by 10, 100 or 1000	5	21	27												
Short x	16	18	23	28											
Short ÷, including r	15	24	26												
Fractions	9	20													
Missing numbers	7	14	17	22	26										
+	9	22													
-	8	12	17	25											
x	2	3	4	6	7	10	11	13	16	18	19	20	21	23	28
÷	1	5	14	15	20	24	26	27							

## Spring Test 4

## **Teacher guidance**

#### Skills and knowledge needed for this test:

- · Addition and subtraction of two numbers up to four digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to 12 × 12 including derivatives of multiples of 100
- Multiplication by 0; multiplication and division by 1; square and cube numbers

### New: Addition and subtraction of whole numbers with more than four digits (and different numbers of digits)

#### A teaching suggestion

- Review the addition of two four-digit numbers using columns for the written calculation (e.g. 1528 + 3379 = 4907).
- Display 86 457 + 855 and discuss how to set this out. Establish that the ones need to be added together, then the tens and so on; therefore, the numbers need to be in the correct columns. Display this:





that you start at the ones and work to the left. Remind the children that, when the answer to a column is greater than one digit, the number is written with the first digit underneath the next column, but so it still reads as the same number.

Display the completed calculation:

86457 855 87312

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



- Multiplication of three numbers
- Short multiplication of up to four digits by a single-digit number
- Short division (to TO), including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	$= 6 \times 11$	66	1	Y4 Autumn Test 5
2	53 × 1 =	53	1	Y4 Autumn Test 6
3	72 = + 33	39	1	Y3 Autumn Test 1, Y3 Autumn Test 3
4	1 <sup>2</sup> =	1	1	Y5 Autumn Test 4
5	60 × 10 =	600	1	Y5 Autumn Test 5
6	820 - 267 =	553	1	Y4 Spring Test 3
7	22 × 0 =	0	1	Y4 Autumn Test 4
8	700 - 219 =	481	1	Y5 Autumn Test 3
9	11 <sup>2</sup> =	121	1	Y5 Autumn Test 4
10	= 362 - 28	334	1	Y5 Spring Test 4
11	$\frac{3}{7} + \frac{6}{7} =$	$1\frac{2}{7}$ (or equiv)	1	Y5 Autumn Test 2
12	= 84 ÷ 7	12	1	Y4 Spring Test 6
13	6 <sup>3</sup> =	216	1	Y5 Spring Test 1
14	5 × 721 × 2 =	7210	1	Y4 Summer Test 3
15	7136 × 3 =	21 408	1	Y5 Spring Test 3
16	836 = 428	408	1	Y4 Spring Test 3, Y3 Autumn Test 1
17	463.2 ÷ 100 =	4.632	1	Y5 Spring Test 2
18	<sup>3</sup> = 0	0	1	Y5 Spring Test 1
19	91 ÷ 5 =	18 r1	1	Y5 Autumn Test 6
20	6000 - 4121 =	1879	1	Y5 Autumn Test 3
21	50 ÷ 3 =	16 r2	1	Y5 Autumn Test 6
22	642 = 🗌 ÷ 9	5778	1	Y4 Autumn Test 3, Y4 Summer Test 1
23	3629 + 84 =	3713	1	Y5 Spring Test 4
24	85 ÷ 6 =	14 r1	1	Y5 Autumn Test 6
25	414 = 6 ×	69	1	Y4 Autumn Test 2, Y4 Autumn Test 3
26	7.1 × 1000 =	7100	1	Y5 Spring Test 2
27	2369 × 7 =	16 583	1	Y5 Spring Test 3
28	= 364 + 25 + 3182	3571	1	Y5 Spring Test 4
	1	otal marks	28	

## **Spring Test 4**



## Spring Test 4 (continued)



### How well did you do?

± with correct place value	10	23	28									
– with zeros	6	8	20									
Multiples of tables	5											
Square and cube numbers	4	9	13	18								
÷ or x by 10, 100 or 1000	5	17	26									
Short x	15	27										
Short ÷, including r	19	21	22	24	25							
Fractions	11											
Missing numbers	3	16	18	22	25							
+	11	23	28									
_	3	6	8	10	16	20						
×	1	2	4	5	7	9	13	14	15	22	26	27
÷	12	17	18	19	21	24	25					

#### YEAR 5 ARITHMETIC PRACTICE TESTS

# **Spring Test 5**

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with different numbers of digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100
- Multiplication of three numbers

## New: Division of a four-digit number by a single-digit number

#### A teaching suggestion

- The children are already familiar with TO ÷ O (see Y4 Autumn Test 2). Display 6745 ÷ 5 and then set out the sum for formal division.
  - 5 6745
  - First ask: 'How many 5 (thousands) in 6 (thousands)?' Agree that 6 (thousands) have one group of 5 (thousand) and 1 (thousand) left over. Write this in, demonstrating where to write the digit in the thousands column and the remainder in the hundreds column.



Now ask: 'How many 5 (hundreds) in 17 (hundreds)?' Agree that there are three groups of 5 (hundred) and 2 (hundred) left over. Continue until the sum is completed.





Complete lots of examples with the children, including some with remainders. Encourage them to work with a partner before trying the work independently.

- Multiplication by 0; multiplication and division by 1; square and cube numbers
- Short multiplication of up to four digits by a single-digit number
- Short division (to TO), including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	12 × 0 =	0	1	Y4 Autumn Test 4
2	= 63 ÷ 9	7	1	Y4 Spring Test 2
3	3 <sup>2</sup> =	9	1	Y5 Autumn Test 4
4	4000 ÷ 10 =	400	1	Y5 Autumn Test 5
5	621 - 350 =	271	1	Y4 Spring Test 3
6	= 15 ÷ 1	15	1	Y4 Autumn Test 6
7	56 = 🗌 × 7	8	1	Y4 Autumn Test 3, Y4 Spring Test 6
8	$\frac{15}{10} - \frac{1}{10} =$	$1\frac{4}{10}$ (or equiv)	1	Y5 Autumn Test 2
9	76.4 ÷ 100 =	0.764	1	Y5 Spring Test 2
10	4 <sup>3</sup> =	64	1	Y5 Spring Test 1
11	635 - 82 =	553	1	Y5 Spring Test 4
12	÷ 8 = 125	1000	1	Y4 Autumn Test 3, Y4 Summer Test 1
13	1453 × 4 =	5812	1	Y5 Spring Test 3
14	396 = 185	581	1	Y4 Spring Test 1, Y3 Autumn Test 1
15	64 ÷ 3 =	21 r1	1	Y5 Autumn Test 6
16	= 12 × 500	6000	1	Y4 Summer Test 2, Y4 Summer Test 5
17	7852 ÷ 2 =	3926	1	Y5 Spring Test 5
18	8 × 5 × 26 =	1040	1	Y4 Summer Test 3
19	7002 - 2304 =	4698	1	Y5 Autumn Test 3
20	90 ÷ 7 =	12 r6	1	Y5 Autumn Test 6
21	7328 - 79 =	7249	1	Y5 Spring Test 4
22	342 + = 911	569	1	Y4 Spring Test 3, Y3 Autumn Test 1
23	= 63.4 × 100	6340	1	Y5 Spring Test 2
24	8845 ÷ 5 =	1769	1	Y5 Spring Test 5
25	4348 × 9 =	39 132	1	Y5 Spring Test 3
26	<sup>2</sup> = 25	5	1	Y5 Autumn Test 4
27	63 + 2986 + 8 =	3057	1	Y5 Spring Test 4
28	4632 ÷ 6 =	772	1	Y5 Spring Test 5
		28		



## **Spring Test 5**



## Spring Test 5 (continued)



### How well did you do?

± with correct place value	11	21	27								
– with zeros	19										
Multiples of tables	4	16									
Square and cube numbers	3	10	26								
÷ or x by 10, 100 or 1000	4	9	23								
Short x	12	13	18	25							
Short ÷, including r	15	17	20	24	28						
Fractions	8										
Missing numbers	7	12	14	22	26						
+	14	27									
_	5	8	11	19	21	22					
X	1	3	10	12	13	16	18	23	25		
÷.	2	4	6	7	9	15	17	20	24	26	28

## **Spring Test 6**

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with different numbers of digits
- Addition and subtraction of fractions with the same denominator
- Multiplication and division to  $12 \,{\times}\, 12$  including derivatives of multiples of 100
- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1; square and cube numbers

## New: Addition and subtraction of fractions with multiples of the same denominator

#### A teaching suggestion



Cut one circle into fifths and another into tenths. Compare the segments, demonstrating that two tenths are the same as one fifth, four tenths are the same as two fifths and so on.

Hold up fifth fractions and, on an agreed signal, ask the children to call out how many tenths they represent.



When the children are confident, display:

$$\frac{3}{5} + \frac{1}{10} =$$



Hold three fifths in one hand and one tenth in the other. Discuss the problem of adding them (they are not the same). Give the children an opportunity to discuss how to solve the problem. Agree that the three fifths can be changed for six tenths.

$$\frac{3}{5} + \frac{1}{10} = \frac{6}{10} + \frac{1}{10} =$$

The tenths are now straightforward to add, giving  $\frac{7}{10}$ .

Together, repeat lots of addition and subtraction examples using  $\frac{1}{3}$  and  $\frac{1}{6}$ ,  $\frac{1}{4}$  and  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{1}{8}$  and so on. Allow the children to work with a partner before working independently.



- Short multiplication of up to four digits by a single-digit number
- Short division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question	Question	Answer	Marks	Related test
1	2 × 7 =	14	1	Y4 Spring Test 6
2	÷ 5 = 11	55	1	Y4 Autumn Test 3, Y4 Autumn Test 5
3	23 × 100 =	2300	1	Y5 Autumn Test 5
4	= 713 - 305	408	1	Y4 Spring Test 3
5	20 × 1 =	20	1	Y4 Autumn Test 6
6	2 <sup>3</sup> =	8	1	Y5 Spring Test 1
7	= 0 × 70	0	1	Y4 Autumn Test 4
8	$\frac{12}{8} - \frac{2}{8} =$	1 <sup>2</sup> / <sub>8</sub> (or equiv)	1	Y5 Autumn Test 2
9	78 + 284 =	362	1	Y5 Spring Test 4
10	348 = + 176	172	1	Y4 Spring Test 1, Y3 Autumn Test 1
11	6142 × 3 =	18 426	1	Y5 Spring Test 3
12	58 ÷ 3 =	19 r1	1	Y5 Autumn Test 6
13	$\frac{1}{3} + \frac{1}{6} = \square$	$\frac{3}{6}$ (or equiv)	1	Y5 Spring Test 6
14	= 7 <sup>2</sup>	49	1	Y5 Autumn Test 4
15	1364 - 58 =	1306	1	Y5 Spring Test 4
16	$4 \times 37 \times 5 =$	740	1	Y4 Summer Test 3
17	= 6004 - 2151	3853	1	Y5 Autumn Test 3
18	4122 ÷ 3 =	1374	1	Y5 Spring Test 5
19	600 × 9 =	5400	1	Y4 Spring Test 4, Y4 Summer Test 5
20	$\frac{4}{5} - \frac{1}{10} =$	$\frac{7}{10}$ (or equiv)	1	Y5 Spring Test 6
21	93 ÷ 6 =	15 r3	1	Y5 Autumn Test 6
22	5 = 1745 ÷	349	1	Y5 Spring Test 5, Y4 Autumn Test 3
23	7.29 ÷ 10 =	0.729	1	Y5 Spring Test 2
24	169 = 651	820	1	Y4 Spring Test 1, Y3 Autumn Test 1
25	2773 × 8 =	22 184	1	Y5 Spring Test 3
26	= 7319 + 6 + 287	7612	1	Y5 Spring Test 4
27	6824 ÷ 8 =	853	1	Y5 Spring Test 5
28	$\frac{1}{4} + \frac{5}{12} =$	$\frac{8}{12}$ (or equiv)	1	Y5 Spring Test 6
	1	28		

## Spring Test 6



## Spring Test 6 (continued)

17	= 6004 - 2151	18	3 4 1 2 2	
19	600 × 9 =	20	$\frac{4}{5} - \frac{1}{10} =$	
21	6 93	22	5 = 1745 ÷	
23	7.29 ÷ 10 =	24	- 169 = 651	
25	2773 ×8	26	= 7319 + 6 + 287	
27	8 6824	28	$\frac{1}{4} + \frac{5}{12} =$	

## Total marks

/28

#### How well did you do? Colour the numbers of the

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

## Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of two numbers with different numbers of digits
- Addition and subtraction of fractions with multiples of the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100
- Multiplication by 0; multiplication and division by 1; square and cube numbers

## New: Addition and subtraction of whole numbers and mixed decimals

#### A teaching suggestion



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.

Display 4.65 + 56.4 and discuss how this needs to be set out. Establish that the tenths and ones each need to be added together, and so the numbers need to be in the correct columns. Note how the decimal points are lined up.

 $+ \frac{4.65}{56.4}$ 

To avoid confusion, fill in the gaps with zeros.

 $+ \frac{04.65}{56.40}$ 

Step3

Work through the calculation, emphasising that you start at the right and work across to the left. Remind the children that, when the answer to a column is greater than one digit, the number is written with the first digit under the next column but so it still reads as the same number. Display the completed calculation, emphasising the position of the decimal point.

$$\times \frac{\begin{array}{r} 0\,4.65\\ 5\,6.40\\ \hline \underline{61.05}\\ 1 1 \end{array}}{}$$

- Multiplication of three numbers
- Short multiplication of up to four digits by a single-digit number
- Short division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	2 × 12 =	24	1	Y4 Summer Test 2
2	24 = 39 -	15	1	Y3 Autumn Test 1, Y3 Autumn Test 3
3	18 ÷ 1 =	18	1	Y4 Autumn Test 6
4	= 3000 ÷ 1000	3	1	Y5 Autumn Test 5
5	18 × 0 =	0	1	Y4 Autumn Test 4
6	982 - 184 =	798	1	Y4 Spring Test 3
7	$\frac{3}{5} + \frac{9}{5} = \square$	$2\frac{2}{5}$ (or equiv)	1	Y5 Autumn Test 2
8	$\frac{3}{4}$ of 44 =	33	1	Y3 Autumn Test 4
9	713 = 🗌 + 421	292	1	Y4 Spring Test 3, Y3 Autumn Test 1
10	600 × 4 =	2400	1	Y4 Summer Test 5
11	12 <sup>2</sup> =	144	1	Y5 Autumn Test 4
12	$\frac{1}{4} + \frac{3}{8} = \boxed{}$	$\frac{5}{8}$ (or equiv)	1	Y5 Spring Test 6
13	94 ÷ 5 =	18 r4	1	Y5 Autumn Test 6
14	$\boxed{}=2\times 622\times 5$	6220	1	Y4 Summer Test 3
15	3.4 + 2.65 =	6.05	1	Y5 Summer Test 1
16	□×7 = 3934	562	1	Y5 Spring Test 5, Y4 Autumn Test 3
17	4982 + 35 =	5017	1	Y5 Spring Test 4
18	9 <sup>3</sup> =	729	1	Y5 Spring Test 1
19	= 60 × 90	5400	1	Y4 Summer Test 5
20	732 - 48.1 =	683.9	1	Y5 Summer Test 1
21	6.132 × 100 =	613.2	1	Y5 Spring Test 2
22	7328 ÷ 4 =	1832	1	Y5 Spring Test 5
23	3152 = 5210	8362	1	Y3 Autumn Test 1, Y4 Spring Test 1
24	9000 - 3812 =	5188	1	Y5 Autumn Test 3
25	$\frac{3}{5} - \frac{2}{15} =$	$\frac{7}{15}$ (or equiv)	1	Y5 Spring Test 6
26	= 2930 - 861	2069	1	Y5 Spring Test 4
27	5687 × 7 =	39 809	1	Y5 Spring Test 3
28	26.5 + 8.6 =	35.1	1	Y5 Summer Test 1
29	632 = 🗌 ÷ 9	5688	1	Y4 Autumn Test 3, Y4 Summer Test 1
30	8302 ÷ 7 =	1186	1	Y5 Spring Test 5
	Т	30		



### Summer Test 1 (continued)



### How well did you do?

± with correct place value	15	17	20	26	28						
– with zeros	24										
Multiples of tables	10	19									
Square and cube numbers	11	18									
÷ or x by 10, 100 or 1000	4	21									
Short x	27	29									
Short ÷, including r	13	16	22	30							
Fractions	7	8	12	25							
Missing numbers	2	9	16	23	29						
+	7	12	15	17	23	28					
-	2	6	9	20	24	25	26				
x	1	5	8	10	11	14	18	19	21	27	29
÷.	3	4	8	13	16	22	30				

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of numbers with different numbers of digits, including decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Multiplication and division to  $12\,{\times}\,12$  including derivatives of multiples of 100
- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1; square and cube numbers

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

#### A teaching suggestion

Step	1

Explain that the formal method of long multiplication is like doing three calculations but only having to write one! Display: 3.4.1

play: 341 × 25

Demonstrate that you start by multiplying by the ones for the first calculation,

so  $5 \times 341 = 1705$ .

```
\begin{array}{r}
341 \\
\times \underline{25} \\
\underline{1705}
\end{array}
```

<sup>p</sup> 3	Explain that the second calc	ulation is
	multiplying by the tens.	341
	Emphasise that you are	× 25
	multiplying by 20 (not	1705
	by 2), so $20 \times 341 = 6820$ .	6820

Finally, demonstrate the thi	rd calculation
where the answers to the	341
other two parts are added	× 25
together, so	1705
1705 + 6820 = 8525.	+ <u>6820</u>
	<u>8525</u>
	Finally, demonstrate the thi where the answers to the other two parts are added together, so 1705 + 6820 = 8525.

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



- Short multiplication of up to four digits by a single-digit number
- Short division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	6 × 11 =	66	1	Y4 Autumn Test 5, Y4 Spring Test 4
2	32 = + 20	12	1	Y3 Autumn Test 1, Y3 Autumn Test 3
3	55 ÷ 2 =	27 r1	1	Y5 Autumn Test 6
4	= 15 × 0	0	1	Y4 Autumn Test 4
5	32 × 1 =	32	1	Y4 Autumn Test 6
6	200 × 100 =	20 000	1	Y5 Autumn Test 5
7	35 ÷ 7 =	5	1	Y4 Spring Test 6
8	$\frac{16}{7} - \frac{2}{7} = \square$	2 (or equiv)	1	Y5 Autumn Test 2
9	= 622 - 344	278	1	Y4 Spring Test 3
10	11 <sup>2</sup> =	121	1	Y5 Autumn Test 4
11	$\frac{1}{2} + \frac{3}{4} = \square$	$1\frac{1}{4}$ (or equiv)	1	Y5 Spring Test 6
12	84 = 🗌 × 6	14	1	Y4 Autumn Test 3, Y4 Spring Test 2
13	8 <sup>3</sup> =	512	1	Y5 Spring Test 1
14	24.35 + 8.82 =	33.17	1	Y5 Summer Test 1
15	4265 × 6 =	25 590	1	Y5 Spring Test 3
16	7314 ÷ 2 =	3657	1	Y5 Spring Test 5
17	= 6 + 482 + 74	562	1	Y5 Spring Test 4
18	$6 \times 321 \times 50 =$	96 300	1	Y4 Summer Test 3
19	$\frac{1}{6} + \frac{5}{12} =$	$\frac{7}{12}$ (or equiv)	1	Y5 Spring Test 6
20	= 73.1 - 5.52	67.58	1	Y5 Summer Test 1
21	5004 - 1456 =	3548	1	Y5 Autumn Test 3
22	36 × 24 =	864	2*	Y5 Summer Test 2
23	3735 - 295 =	3440	1	Y5 Spring Test 4
24	9.2 ÷ 1000 =	0.0092	1	Y5 Spring Test 2
25	= 46 + 8.7	54.7	1	Y5 Summer Test 1
26	3426 = 1551	1875	1	Y4 Spring Test 3, Y3 Autumn Test 1
27	6012 ÷ 9 =	668	1	Y5 Spring Test 5
28	715 × 49 =	35 035	2*	Y5 Summer Test 2
		Total marks	30	

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



## Summer Test 2 (continued)



### How well did you do?

		. <u> </u>		<u> </u>	·	· · · · ·			r	
± with correct place value	14	17	20	23	25					
– with zeros	21									
Multiples of tables	6	18								
Square and cube numbers	10	13								
÷ or x by 10, 100 or 1000	6	24								
Short x	15	18								
Long x	22	28								
Short ÷, including r	3	12	16	27						
Fractions	8	11	19							
Missing numbers	2	12	26							
+	11	14	17	19	25					
-	2	8	9	20	21	23	26			
x	1	4	5	6	10	13	15	18	22	28
÷.	3	7	12	16	24	27				

#### YEAR 5 ARITHMETIC PRACTICE TESTS

## Summer Test 3

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of numbers with different numbers of digits, including decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Multiplication and division to  $12 \,{\times}\, 12$  including derivatives of multiples of 100
- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1; square and cube numbers

### New: Finding fractions of amounts

#### A teaching suggestion

Show the children a circle and tell them you are going to colour  $\frac{3}{8}$  of the circle. Demonstrate how to start by dividing the circle into eighths, and then colour three of the eighths.



Repeat with other fractions (e.g. for  $\frac{5}{6}$  divide the shape into sixths and then colour five of the sixths).



When the children are confident, use a number instead of a shape. Find  $\frac{3}{8}$  of 40. Start by dividing 40 into eighths:  $40 \div 8 = 5$ . So each eighth is worth 5 and we want three of them.  $5 \times 3 = 15$ , so  $\frac{3}{8}$  of 40 = 15.



Emphasise that this means there are two steps to the calculation: first they divide and then they multiply (e.g.  $\frac{2}{5}$  of 30 is  $30 \div 5 = 6$ , then  $6 \times 2 = 12$ ).



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

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

Complete lots of examples with the children. Allow them to work with a partner before trying the work independently.



- Multiplication of up to four digits by a single-digit or a two-digit number
- Division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	7 ÷ 1 =	7	1	Y4 Autumn Test 6
2	48 ÷ 12 =	4	1	Y4 Summer Test 2
3	= 4 × 11	44	1	Y4 Autumn Test 5
4	30 × 0 =	0	1	Y4 Autumn Test 4
5	9000 ÷ 10 =	900	1	Y5 Autumn Test 5
6	50 = 17 +	33	1	Y3 Autumn Test 1, Y3 Autumn Test 3
7	$\frac{1}{6}$ of 12 =	2	1	Y5 Summer Test 3
8	= 514 - 168	346	1	Y4 Spring Test 3
9	$\frac{1}{5} + \frac{3}{10} =$	$\frac{5}{10}$ (or equiv)	1	Y5 Spring Test 6
10	10 <sup>3</sup> =	1000	1	Y5 Spring Test 1
11	30 = 🗌 × 6	5	1	Y4 Autumn Test 3, Y4 Spring Test 4
12	9 <sup>2</sup> =	81	1	Y5 Autumn Test 4
13	$\frac{3}{5}$ of 25 =	15	1	Y5 Summer Test 3
14	= 700 - 263	437	1	Y5 Autumn Test 3
15	5358 + 48 =	5406	1	Y5 Spring Test 4
16	□×70 = 490	7	1	Y4 Autumn Test 3, Y4 Summer Test 5
17	17.25 - 8.36 =	8.89	1	Y5 Summer Test 1
18	4156 × 5 =	20 780	1	Y5 Spring Test 3
19	$\frac{4}{7}$ of 56 =	32	1	Y5 Summer Test 3
20	= 3.642 × 10	36.42	1	Y5 Spring Test 2
21	$\frac{2}{3} - \frac{4}{15} =$	$\frac{6}{15}$ (or equiv)	1	Y5 Spring Test 6
22	7328 ÷ 8 =	916	1	Y5 Spring Test 5
23	67 + 7.3 =	74.3	1	Y5 Summer Test 1
24	$\frac{5}{9}$ of 198 =	110	1	Y5 Summer Test 3
25	326 × 16 =	5216	2*	Y5 Summer Test 2
26	$50 \times 273 \times 2 =$	27 300	1	Y4 Summer Test 3
27	386 = 473	859	1	Y4 Spring Test 1, Y3 Autumn Test 1
28	647 × 82 =	53 054	2*	Y5 Summer Test 2
	T	otal marks	30	

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



### Summer Test 3 (continued)



How well did you do?

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

### Teacher guidance

#### Skills and knowledge needed for this test:

- Addition and subtraction of numbers with different numbers of digits, including decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Multiplication and division to  $12 \,{\times}\, 12$  including derivatives of multiples of 100
- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1; square and cube numbers

### **New: Complements of 1**

#### A teaching suggestion



Review the number story of 10, rapping it.

Demonstrate how this gives us the

number bonds (or complements) for 1.



Sing the number story (you can use the tune 'The Grand Old Duke of York' and sing 'Point one add to point nine, point two add to point eight', etc.)



Play: 'I am thinking of complements of one. One of the numbers I am thinking of is zero point four. What is the other?'. Repeat with other numbers.



Play 'Complement Bingo'. Each child writes four numbers from the number story on a white board. You call out a number and, if they have the number bond, they cross it out (e.g. if you call out 0.3, they can cross out 0.7). The first child to cross out all their numbers is the winner.



- Multiplication of up to four digits by a single-digit or a two-digit number
- Division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Finding fractions of amounts
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	9 × 1 =	9	1	Y4 Autumn Test 6
2	÷ 5 = 3	15	1	Y4 Autumn Test 3
3	$= 6 \times 0$	0	1	Y4 Autumn Test 4
4	= 30 × 10	300	1	Y5 Autumn Test 5
5	84 ÷ 12 =	7	1	Y4 Summer Test 2
6	<sup>2</sup> = 81	9	1	Y5 Autumn Test 4
7	$\frac{1}{2} - \frac{1}{10} =$	$\frac{4}{10}$ (or equiv)	1	Y5 Spring Test 6
8	0.4 + 🗌 = 1	0.6	1	Y5 Summer Test 4
9	4 <sup>3</sup> =	64	1	Y5 Spring Test 1
10	$ = \frac{3}{8} \text{ of } 40 $	15	1	Y5 Summer Test 3
11	1 = 0.7 +	0.3	1	Y5 Summer Test 4
12	7149 × 4 =	28 596	1	Y5 Spring Test 3
13	63 + 🗌 = 421	358	1	Y5 Spring Test 4, Y3 Autumn Test 1
14	815 ÷ 7 =	116 r3	1	Y5 Autumn Test 6
15	1 = 0.2	0.8	1	Y5 Summer Test 4
16	902 - 459 =	443	1	Y5 Autumn Test 3
17	26 + 3829 =	3855	1	Y5 Spring Test 4
18	= 64.3 + 8.2	72.5	1	Y5 Summer Test 1
19	1.72 ÷ 100 =	0.0172	1	Y5 Spring Test 2
20	6315 ÷ 5 =	1263	1	Y5 Spring Test 5
21	$ = \frac{7}{10} \text{ of } 400 $	280	1	Y5 Summer Test 3
22	35 × 23 =	805	2*	Y5 Summer Test 2
23	$\frac{1}{9} + \frac{4}{90} =$	$\frac{14}{90}$ (or equiv)	1	Y5 Spring Test 6
24	= 9134 - 56	9078	1	Y5 Spring Test 4
25	$8 \times 14 \times 5 =$	560	1	Y4 Summer Test 3
26	289 + 35.1 =	324.1	1	Y5 Summer Test 1
27	3252 = 6 ×	542	1	Y5 Spring Test 5, Y4 Autumn Test 3
28	197 × 58 =	11 426	2*	Y5 Summer Test 2
		30		

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



## Summer Test 4 (continued)



### How well did you do?

Colour the numbers of the questions you got correct.

											$\sim$
Complements of 1	8	11	15								
± with correct place value	13	17	18	24	26						
– with zeros	16										
Multiples of tables	4										
Square and cube numbers	6	9									
÷ or x by 10, 100 or 1000	4	19									
Short x	12	25									
Long x	22	28									
Short ÷, including r	14	20	27								
Fractions	7	10	21	23							
Missing numbers	2	6	8	11	13	15	27				
+	17	18	23	26							
-	7	8	11	13	15	16	24				
x	1	2	3	4	9	10	12	21	22	25	28
÷	5	6	10	14	19	20	21	27			

/30

### Teacher guidance

#### Skills and knowledge needed for this test:

- Complements of 1
- Addition and subtraction of numbers with different numbers of digits, including decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100  $\,$
- Multiplication by 0; multiplication and division by 1; square and cube numbers

### **New: Balanced calculations**

#### A teaching suggestion



Discuss the meaning of the = sign. Establish that whatever is on one side of the sign needs to be equivalent in value to whatever is on the other side. Show them 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.



Display  $3 + 6 = 5 + \square$ . Clearly 3 + 6does not equal 5, so this sum does not yet balance. Something needs to be done to the 5. Ask the children to solve the problem, and then display the completed calculation 3 + 6 = 5 + 4.



Complete several examples together and then start to move the position of the missing number. The position that causes most errors is  $10 - 6 = \Box + 2$ . Explain that people who do not understand these calculations put 10 - 6 = 4 + 2. Ask the children if they can spot the error and explain why it has happened.



Solve together  $10 - 6 = \square + 2$ . Since 10 - 6 = 4 then  $\square + 2$  must also equal 4, so the missing number is 2.

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



- Multiplication of three numbers
- Multiplication of up to four digits by a single-digit or a two-digit number
- Division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Finding fractions of amounts
- Missing number statements with all four operations

Question number	Question	Answer	Marks	Related test
1	0 × 14 =	0	1	Y4 Autumn Test 4
2	= 21 ÷ 1	21	1	Y4 Autumn Test 6
3	$\frac{1}{8}$ of 32 =	4	1	Y5 Summer Test 3
4	1 = 0.3 +	0.7	1	Y5 Summer Test 4
5	6400 ÷ 10 =	640	1	Y5 Autumn Test 5
6	12 × 9 =	108	1	Y4 Spring Test 2, Y4 Summer Test 2
7	+ 0.8 = 1	0.2	1	Y5 Summer Test 4
8	6 <sup>2</sup> =	36	1	Y5 Autumn Test 4
9	2 + 7 = 5 +	4	1	Y5 Summer Test 5
10	$\frac{1}{3} + \frac{2}{9} = \square$	5/9 (or equiv)	1	Y5 Spring Test 6
11	731 - 536 =	195	1	Y4 Spring Test 3
12	= 132 ÷ 11	12	1	Y4 Autumn Test 5
13	438 = 6 ×	73	1	Y5 Spring Test 3, Y4 Autumn Test 3
14	639 - 62 =	577	1	Y5 Spring Test 4
15	4 × 5 = 25 -	5	1	Y5 Summer Test 5
16	2843 × 8 =	22 744	1	Y5 Spring Test 3
17	= 29.2 - 3.44	25.76	1	Y5 Summer Test 1
18	3912 ÷ 6 =	652	1	Y5 Spring Test 5
19	$\frac{4}{5}$ of 60 =	48	1	Y5 Summer Test 3
20	423.8 × 1000 =	423 800	1	Y5 Spring Test 2
21	$\frac{3}{4} - \frac{5}{16} =$	$\frac{7}{16}$ (or equiv)	1	Y5 Spring Test 6
22	$\Box - 2 = 6 \times 3$	20	1	Y5 Summer Test 5
23	72 × 33 =	2376	2*	Y5 Summer Test 2
24	<sup>3</sup> = 125	5	1	Y5 Spring Test 1
25	73 + 84.72 =	157.72	1	Y5 Summer Test 1
26	735 = 444	291	1	Y4 Spring Test 3, Y3 Autumn Test 1
27	= 5000 - 2432	2568	1	Y5 Autumn Test 3
28	289 × 46 =	13 294	2*	Y5 Summer Test 2
	•	Total marks	30	

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



## Summer Test 5 (continued)



### How well did you do?

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

### Teacher guidance

#### Skills and knowledge needed for this test:

- Complements of 1
- Addition and subtraction of numbers with different numbers of digits, including decimals
- Addition and subtraction of fractions with multiples of the same denominator
- Multiplication and division to  $12 \times 12$  including derivatives of multiples of 100
- Multiplication of three numbers
- Multiplication by 0; multiplication and division by 1; square and cube numbers

- Multiplication of up to four digits by a single-digit or a two-digit number
- Division of a four-digit number by a single-digit number, including with remainders
- Multiplication and division of whole numbers or decimals by 10, 100 or 1000
- Finding fractions of amounts
- · Missing number statements with all four operations
- Balanced calculations

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

Question number	Question	Answer	Marks	Related test
1	$\Box = 18 \times 1$	18	1	Y4 Autumn Test 6
2	12 ÷ 6 =	2	1	Y4 Spring Test 4
3	11 × 0 =	0	1	Y4 Autumn Test 4
4	200 × 100 =	20 000	1	Y5 Autumn Test 5
5	3 <sup>3</sup> =	27	1	Y5 Spring Test 1
6	6145 × 2 =	12 290	1	Y5 Spring Test 3
7	1 = 🗌 + 0.1	0.9	1	Y5 Summer Test 4
8	$2 \times 9 = 54$	6	1	Y4 Autumn Test 3, Y4 Spring Test 2
9	42 = 16 +	26	1	Y3 Autumn Test 1, Y3 Autumn Test 3
10	$2^{2} = 144$	12	1	Y5 Autumn Test 4
11	$\frac{3}{4} + \frac{1}{8} = \square$	$\frac{7}{8}$ (or equiv)	1	Y5 Spring Test 6
12	628 + = 851	223	1	Y4 Spring Test 3, Y3 Autumn Test 1
13	925 ÷ 4 =	231 r1	1	Y5 Autumn Test 6
14	800 - 543 =	257	1	Y5 Autumn Test 3
15	85 ÷ 🗌 = 5	17	1	Y4 Autumn Test 2, Y4 Autumn Test 3
16	$\Box = 40 \times 45 \times 5$	9000	1	Y4 Summer Test 3
17	7408 - 29 =	7379	1	Y5 Spring Test 4
18	3296 = 🗌 × 8	412	1	Y5 Spring Test 5, Y4 Autumn Test 3
19	$27 + 13 = \square \times 4$	10	1	Y5 Summer Test 5
20	$\frac{5}{12}$ of 84 =	35	1	Y5 Summer Test 3
21	= 364 + 8 + 2977	3349	1	Y5 Spring Test 4
22	40 × 70 =	2800	1	Y4 Spring Test 6, Y4 Summer Test 5
23	$\frac{3}{10} - \frac{3}{40} =$	$\frac{9}{40}$ (or equiv)	1	Y5 Spring Test 6
24	8078 ÷ 7 =	1154	1	Y5 Spring Test 5
25	34 × 21 =	714	2*	Y5 Summer Test 2
26	$= 4.1 \div 100$	0.041	1	Y5 Spring Test 2
27	83 - 6.92 =	76.08	1	Y5 Summer Test 1
28	718 × 29 =	20 822	2*	Y5 Summer Test 2
		Total marks	30	

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



### Summer Test 6 (continued)



## How well did you do?

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