

**Pack B**

# Paper 1: arithmetic

**Worked answers**



$$4 \times 5 \times 20 =$$

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**1 mark**

1

$$4 \times 5 \times 20 =$$

$$4 \times 5 = 20$$

$$20 \times 20 = 400$$

400

1 mark



## 2

$7 \times 48 =$	
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[illegible]

**1 mark**

**1 mark**

2

$7 \times 48 =$

Method 1:

$$\begin{array}{r} 48 \\ \times 7 \\ \hline 336 \end{array}$$

Method 2:

$40 \times 7 = 280$

$8 \times 7 = 56$

$280 + 56 = 336$

336

1 mark



3

$$540 \div 6 =$$

[illegible]

**1 mark**

3

$$540 \div 6 =$$

Method 1:

			9	0
6	5	4	0	

Method 2:

$$54 \div 6 = 9$$

$$540 \div 6 = 90$$

90

1 mark



4

$6 \times 304 =$

[illegible]

**1 mark**




## Method 1:

	3	0	4
x			6
1	8	2	4

## Method 2:

$$1800 + 24 = 1824$$

1,824



**1 mark**

5

$$\underline{\hspace{2cm}} = 7,003 + 607$$


1 mark



5

$$\underline{7,610} = 7,003 + 607$$

Check using the inverse:

		7	0	0	3				7	6	<sup>0</sup> 1	<sup>1</sup> 0								
	+		6	0	7				-		6	0	7							
		7	6	1	0					7	0	0	3							
				1																



1 mark



6

$$804 - 10 =$$

[illegible]

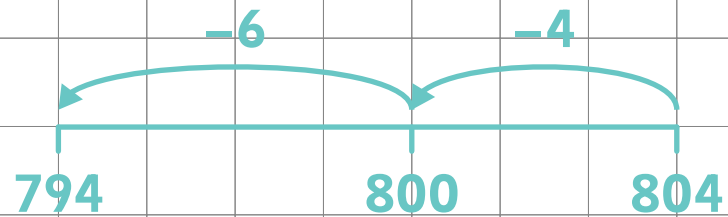
**1 mark**

6

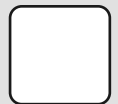
$$804 - 10 =$$

Method 1:

$$\begin{array}{r} \overset{7}{\cancel{8}} \overset{1}{0} 4 \\ - \quad 10 \\ \hline 794 \end{array}$$

Method 2:

794



1 mark



7

$$6.5 + 4.814 =$$



**1 mark**

7

$$6.5 + 4.814 =$$

Check using the inverse:

$$\begin{array}{r}
 6.500 \\
 + 4.814 \\
 \hline
 11.314 \\
 \text{1}
 \end{array}$$

$$\begin{array}{r}
 11.314 \\
 - 4.814 \\
 \hline
 6.500
 \end{array}$$

11.314



1 mark



8

$$\underline{\hspace{2cm}} = 4,823 + 197$$


1 mark





8

$$\underline{5,020} = 4,823 + 197$$


Check using the inverse:

		4	8	2	3				<sup>4</sup> 5	<sup>9</sup> 0	<sup>11</sup> 2	<sup>10</sup>								
	+		1	9	7			-		1	9	7								
		5	0	2	0				4	8	2	3								
		1	1	1																

1 mark

9

$$\frac{3}{4} \times \frac{4}{7} =$$



**1 mark**

9

$$\frac{3}{4} \times \frac{4}{7} =$$

Multiply numerators

Multiply denominators

$$3 \times 4 = 12$$

$$4 \times 7 = 28$$

$$\frac{12}{28} \text{ or } \frac{6}{14} \text{ or } \frac{3}{7}$$

1 mark



10

$$\underline{\hspace{2cm}} = 100 \times 14$$


1 mark



10

$$\underline{1,400} = 100 \times 14$$

Multiplying means the number will be greater.

100 means my digits will move two places to the left

1 4 .

1 4 0 0 .



1 mark



11

$$3,200 \div 4 =$$

[illegible]

**1 mark**

11

$$3,200 \div 4 =$$

Method 1:

			8	0	0
4	3	2	0	0	

Method 2:

$$32 \div 4 = 8$$

$$3,200 \div 4 = 800$$

800

 1 mark


12

$$\underline{\hspace{2cm}} + 4,582 = 6,375$$


1 mark





12

$$\underline{1,793} + 4,582 = 6,375$$

Use the inverse

$$\begin{array}{r} \overset{5}{\cancel{6}} \overset{12}{\cancel{3}} \overset{1}{7} \ 5 \\ - \ 4 \ 5 \ 8 \ 2 \\ \hline 1 \ 7 \ 9 \ 3 \end{array}$$

Check by completing

$$\begin{array}{r} 1 \ 7 \ 9 \ 3 \\ + \ 4 \ 5 \ 8 \ 2 \\ \hline 6 \ 3 \ 7 \ 5 \\ 1 \ 1 \end{array}$$



1 mark



13

$$613 - \underline{\hspace{2cm}} = 568$$


1 mark



13

$$613 - \underline{45} = 568$$

Subtract:

		<sup>5</sup> <del>6</del>	<sup>10</sup> <del>1</del>	<sup>1</sup> 3
-	5	6	8	
		4	5	

Check by completing the calculation:

		<sup>5</sup> <del>6</del>	<sup>10</sup> <del>1</del>	<sup>1</sup> 3
-		4	5	
	5	6	8	



1 mark



14

$$2,100 \div 7 =$$

[illegible]

**1 mark**

14

$$2,100 \div 7 =$$

Method 1:

			3	0	0
7	2	1	0	0	

Method 2:

$$21 \div 7 = 3$$


$$2100 \div 7 = 300$$

300

 1 mark


15

$$\frac{5}{12} + \frac{1}{4} =$$



**1 mark**

15

$$\frac{5}{12} + \frac{1}{4} =$$

Find the lowest common denominator

$$4 \times 3 = 12$$

$$\frac{5}{12} + \frac{1}{4} \xrightarrow{\times 3} \frac{5}{12} + \frac{3}{12} = \frac{8}{12} = \frac{4}{6} = \frac{2}{3}$$

$$\frac{8}{12} \text{ or } \frac{4}{6} \text{ or } \frac{2}{3}$$

1 mark



16

$$0.2 \div 100 =$$

[illegible]

**1 mark**



16

$$0.2 \div 100 =$$

Dividing means the number will be smaller.

100 means my digits will move two places to the right

0.2  
0.002

0.002

1 mark



17

$$376 \div 8 =$$

[illegible]

**1 mark**

17

$$376 \div 8 =$$

Check using the inverse:

$$\begin{array}{r} 47 \\ 8 \overline{) 376} \\ \underline{32} \phantom{0} \\ 56 \end{array}$$

$$\begin{array}{r} 47 \\ \times 8 \\ \hline 356 \end{array}$$

47

1 mark



18

$$\frac{1}{4} \div 5 =$$




**1 mark**

18

$$\frac{1}{4} \div 5 =$$

$$4 \times 5 = 20$$

Numerator stays the same

$$\frac{1}{20}$$



1 mark



19

$$56.4 - 22.453 =$$

[illegible]

**1 mark**

19

$$56.4 - 22.453 =$$

Check using the inverse:

$$\begin{array}{r}
 56.4 \\
 - 22.453 \\
 \hline
 33.947
 \end{array}$$

$$\begin{array}{r}
 33.947 \\
 + 22.453 \\
 \hline
 56.400 \\
 \hline
 56.4
 \end{array}$$

33.947

1 mark



20

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{12} =$$



**1 mark**



20

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{12} =$$

Find the lowest common denominator

$$2 \times 6 = 12$$

$$4 \times 3 = 12$$

$$\begin{array}{ccccccc} \frac{1}{2} & + & \frac{1}{4} & + & \frac{1}{12} & & \\ \text{x6} \swarrow & & \text{x3} \swarrow & & & & \\ \frac{6}{12} & + & \frac{3}{12} & + & \frac{1}{12} & = & \frac{10}{12} \end{array}$$

$$\frac{10}{12} = \frac{5}{6}$$

$$\frac{10}{12} \text{ or } \frac{5}{6}$$

1 mark



21

$$60 + 35 \div 7 =$$

[illegible]

**1 mark**

21

$$60 + 35 \div 7 =$$

Method 1:~~Brackets~~~~Indices~~Division ✓  $35 \div 7 = 5$ ~~Multiplication~~Addition ✓  $60 + 5 = 65$ ~~Subtraction~~Method 2:

$$\begin{array}{r}
 + \quad 5 \\
 60 + 35 \div 7 = 65
 \end{array}$$

65

 1 mark


22

$$\begin{array}{r} 703 \\ \times 28 \\ \hline \end{array}$$

2 marks



22

x

7 0 3

2 8

5 6 2 4

2

1 4 0 6 0

1 9 6 8 4

19,684



2 marks



23

$$1 + \frac{4}{5} + \frac{3}{5} =$$




**1 mark**

23

$$1 + \frac{4}{5} + \frac{3}{5} =$$

Add the fractions.

$$\frac{4}{5} + \frac{3}{5} = \frac{7}{5}$$

Convert to a mixed number

$$\frac{7}{5} = 1\frac{2}{5}$$

Add the wholes and fraction

$$1 + 1 = 2$$

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

Convert whole number to fraction

$$1 = \frac{5}{5}$$

Add the fractions.

$$\frac{5}{5} + \frac{4}{5} + \frac{3}{5} = \frac{12}{5}$$

Convert to mixed number

$$\frac{12}{5} = 2\frac{2}{5}$$

$$\frac{12}{5} = 2\frac{2}{5}$$

 1 mark


24

$$74\% \text{ of } 800 =$$
[illegible]

**1 mark**



24

74% of 800 =

Method 1:

$$10\% \text{ of } 800 = 80$$

$$1\% \text{ of } 800 = 8$$

$$80 \times 7 = 560$$

$$70\% \text{ of } 800 = 560$$

$$8 \times 4 = 32$$

$$4\% \text{ of } 800 = 32$$

$$560 + 32 = 592$$

Method 2:

$$800 \div 100 = 8$$

$$\begin{array}{r} 74 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 74 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 592 \\ \hline \end{array}$$

592

1 mark



25

$$5,490 \div 6 =$$

[illegible]

**1 mark**

25

$$5,490 \div 6 =$$

				9	1	5													
		6	5	4	9	<sup>3</sup> 0													

915

☐  
1 mark

26

x

4 5 2 8

2 6

  
2 marks

26

x

4 5 2 8

2 6

$$\begin{array}{r} 27168 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 27168 \\ \times 26 \\ \hline 54336 \\ \end{array}$$

$$\begin{array}{r} 27168 \\ \times 26 \\ \hline 54336 \\ 54336 \\ \hline \end{array}$$

1

117,728

2 marks



27

$$\frac{5}{6} + \frac{2}{3} =$$




**1 mark**

27

$$\frac{5}{6} + \frac{2}{3} =$$

Find the lowest common denominator

$$3 \times 2 = 6$$

$$\frac{5}{6} + \frac{2}{3} \xrightarrow{\times 2} \frac{5}{6} + \frac{4}{6} = \frac{9}{6} = \frac{3}{2} = 1\frac{1}{2}$$

$$\frac{9}{6} \text{ or } \frac{3}{2} \text{ or } 1\frac{1}{2}$$

1 mark



28

$$4.6 \times 12 =$$

[illegible]

**1 mark**



28

$4.6 \times 12 =$

Method 1:

$4 \times 12 = 48$

$6 \times 12 = 72$

$0.6 \times 12 = 7.2$

$48 + 7.2 = 55.2$

Method 2:

$4.6$

$\times 12$

$9.2$

$460$

$55.2$

$1$

Method 3:

$4.6 \times 12 =$

$4.6$

$\times 12$

$9.2$

$460$

$55.2$

$1$

55.2

1 mark



29

2	8	7	5	6
---	---	---	---	---



2 marks



29

Method 1:

				2	7
	2	8	7	5	6
			5	6	
			1	9	6
			1	9	6
					0

Method 2a: use factors (4 x 7 = 28)

		1	8	9				2	7	
	4	7	<sup>3</sup> 5	<sup>3</sup> 6			7	1	8	<sup>4</sup> 9

Method 2b: use factors (7 x 4 = 28)

		1	0	8				2	7	
	7	7	5	<sup>5</sup> 6			4	1	0	<sup>2</sup> 8

27

2 marks



30

$$1\frac{2}{3} - \frac{5}{8} =$$



**1 mark**

30

$$1\frac{2}{3} - \frac{5}{8} =$$

Convert both to improper fractions:

$$1\frac{2}{3} = \frac{5}{3}$$

Cross multiply

$$\begin{array}{r} \frac{5}{3} - \frac{5}{8} \\ \times 8 \quad \times 3 \\ \hline \frac{40}{24} - \frac{15}{24} = \frac{25}{24} = 1\frac{1}{24} \end{array}$$

$$1\frac{1}{24}$$



1 mark



31

$$84\% \text{ of } 350 =$$
[illegible]

**1 mark**

31

84% of 350 =

Method 1:

10% of 350 = 35

1% of 350 = 3.5

 $35 \times 8 = 280$  $3.5 \times 4 = 14$  $280 + 14 = 294$ Method 2:

3 5 0

x 8 4

1 2 4 0 0

2 4 8 0 0 0

2 9 4 0 0

294

 $29,400 \div 100 = 294$ 

1 mark



32

$$\frac{3}{8} \div 6 =$$



**1 mark**



32

$$\frac{3}{8} \div 6 =$$

$$8 \times 6 = 48$$

Numerator stays the same

$$\frac{3}{48} = \frac{1}{16}$$

1 mark



33

$$0.8 \times 42 =$$

[illegible]

**1 mark**

33

$$0.8 \times 42 =$$

## Method 1:



4 | 2

0.8

3 | 3 | 6

0 | 0.0

3 | 3.6

## Method 2:

$0.\underline{8} \times 42 =$



4 | 2

8

 $3 \quad | \quad 3 \quad | \quad \cdot \quad \underline{6}$ 

## 33.6

**1 mark**

34

$$45\% \text{ of } 580 =$$
[illegible]

**1 mark**

34

45% of 580 =

Method 1:

10% of 580 = 58

5% of 580 = 29

40% of 580 = 232

58 x 4 = 232

232 + 29 = 261

Method 2:

5 8 0

x 4 5

2 4 9 0 0

2 3 3 2 0 0

2 6 1 0 0

1

26,100 ÷ 100 = 261

Method 3:

50% of 580 = 290

5% of 580 = 29

290 - 29 = 261

261

1 mark



35

$$\frac{5}{9} \times 540 =$$



**1 mark**

35

$$\frac{5}{9} \times 540 =$$

Method 1:

$$540 \times 5 = 2,700$$

$$2,700 \div 9 = 300$$

Method 2:

$$540 \div 9 = 60$$

$$60 \times 5 = 300$$

300

☐ 1 mark


26

3 1 5 7 0 4



2 marks





36

			1	8	4
3	1	5	7	0	4
		3	1		
		2	6	0	
		2	4	8	
			1	2	4
			1	2	4
					0

184

**2 marks**