

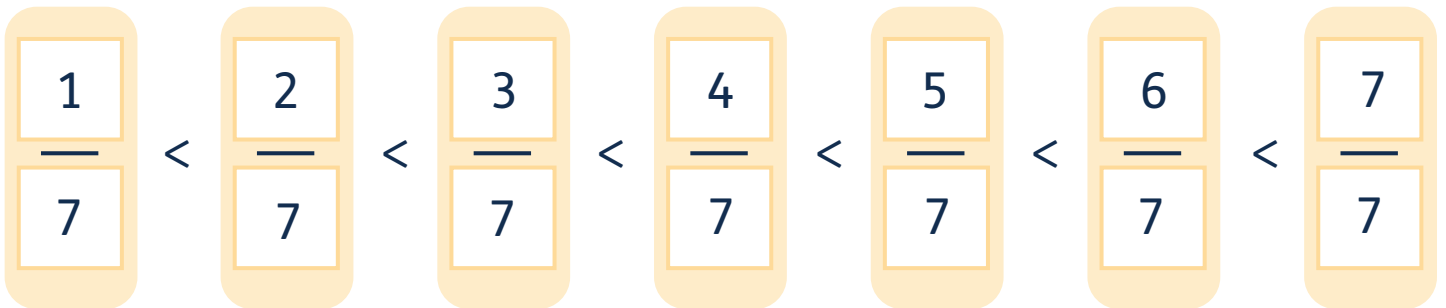
Ordering, adding and subtracting fractions

Answer sheet

Question 1

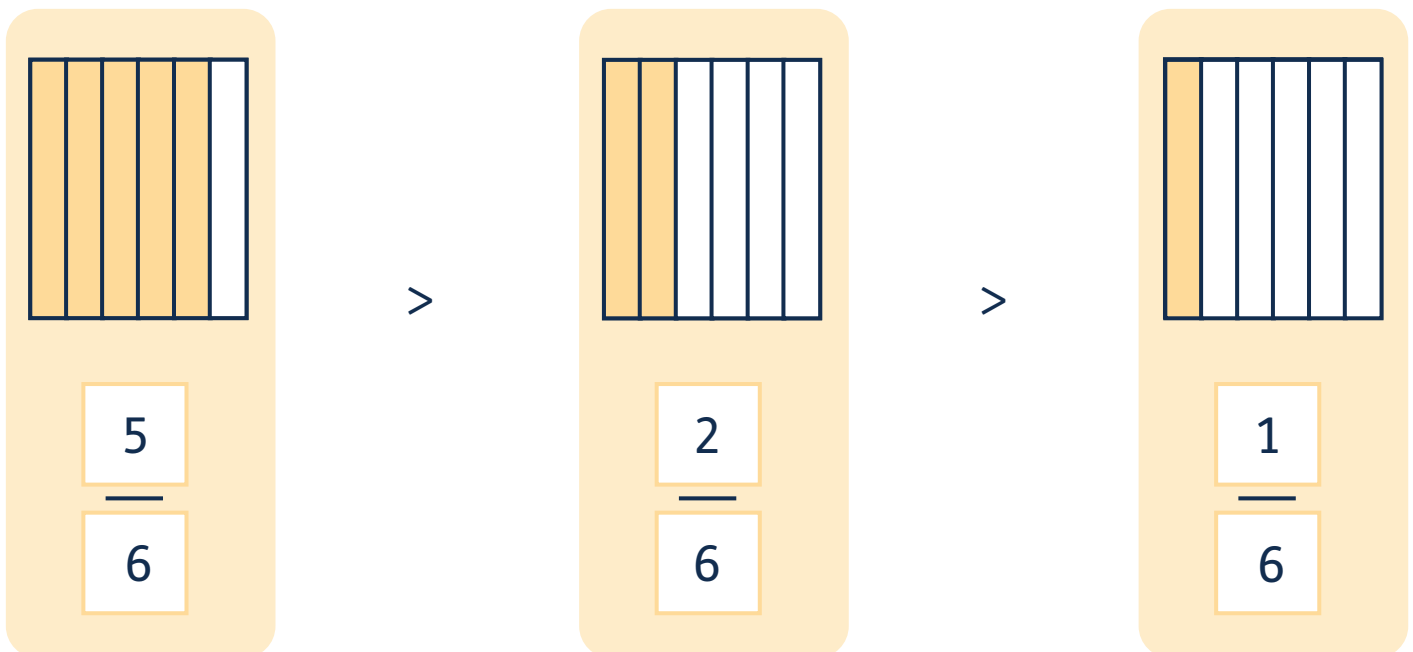
Can you order these fractions from smallest to largest:

$$\frac{4}{7} \quad \frac{2}{7} \quad \frac{6}{7} \quad \frac{1}{7} \quad \frac{5}{7} \quad \frac{3}{7} \quad \frac{7}{7}$$



Question 2

Can you colour these fractions so that they go from largest to smallest?



Ordering, adding and subtracting fractions

Answer sheet

Question 3

Can you shade these bar models and use them to help you order these fractions? Use $<$ or $>$ to complete the number sentences.

a $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}$ e.g. $\frac{1}{2} > \frac{1}{3} > \frac{1}{4}$



b $\frac{1}{5}, \frac{1}{3}, \frac{1}{6}$ e.g. $\frac{1}{6} < \frac{1}{5} < \frac{1}{3}$



Ordering, adding and subtracting fractions

c $\frac{2}{3}, \frac{2}{6}, \frac{2}{4}$ e.g. $\frac{\boxed{2}}{\boxed{6}} < \frac{\boxed{2}}{\boxed{4}} < \frac{\boxed{2}}{\boxed{3}}$

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d $\frac{1}{2}, \frac{3}{4}, \frac{2}{3}$ e.g. $\frac{\boxed{3}}{\boxed{4}} > \frac{\boxed{2}}{\boxed{3}} > \frac{\boxed{1}}{\boxed{2}}$

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Ordering, adding and subtracting fractions

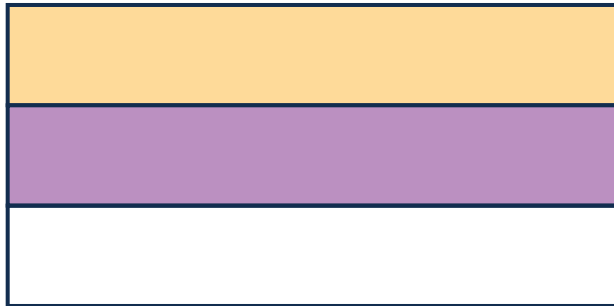
Question 4

Can you use these diagrams to help you answer these addition and subtraction fraction calculations?

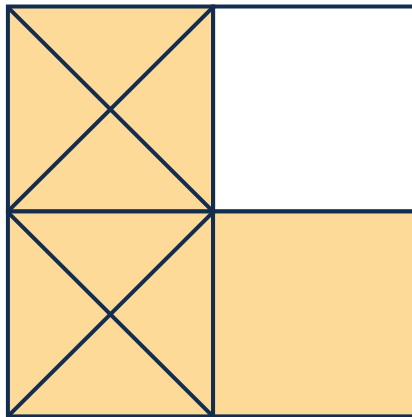
$$\text{a } \frac{2}{6} + \frac{3}{6} = \frac{\boxed{5}}{\boxed{6}}$$



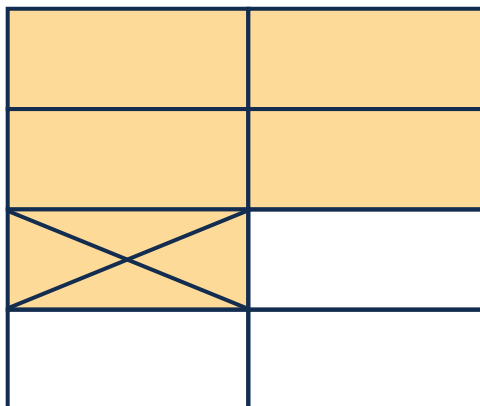
$$\text{b } \frac{1}{3} + \frac{1}{3} = \frac{\boxed{2}}{\boxed{3}}$$



$$\text{c } \frac{3}{4} - \frac{2}{4} = \frac{\boxed{1}}{\boxed{4}}$$



$$\text{d } \frac{5}{8} - \frac{1}{8} = \frac{\boxed{4}}{\boxed{8}}$$



Ordering, adding and subtracting fractions

Question 5

Can you complete these calculations? You can draw your own models to help you if you want to.

$$\text{a } \frac{6}{7} - \frac{4}{7} = \frac{\boxed{2}}{\boxed{7}}$$

$$\text{b } \frac{5}{9} + \frac{1}{9} = \frac{\boxed{6}}{\boxed{9}}$$

$$\text{c } \frac{1}{4} + \frac{2}{4} = \frac{\boxed{3}}{\boxed{4}}$$

$$\text{d } \frac{4}{5} - \frac{3}{5} = \frac{\boxed{1}}{\boxed{5}}$$

$$\text{e } \frac{1}{6} + \frac{\boxed{3}}{\boxed{6}} = \frac{4}{6}$$

$$\text{f } \frac{\boxed{7}}{\boxed{8}} - \frac{2}{8} = \frac{5}{8}$$

$$\text{g } \frac{7}{10} - \frac{\boxed{6}}{\boxed{10}} = \frac{1}{10}$$

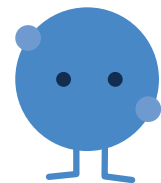
$$\text{h } \frac{\boxed{2}}{\boxed{3}} + \frac{1}{3} = \frac{3}{3}$$

Question 6

Can you solve these word problems?

a

Yasin cuts a pizza into 8 equal slices. He eats 5 slices. How much of the pizza is left? Give your answer as a fraction.



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

$\frac{3}{8}$ of the pizza is left.

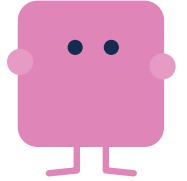


Ordering, adding and subtracting fractions

Answer sheet

b

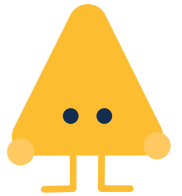
Lucy is reading a book. She reads $\frac{2}{5}$ of the book on Saturday. She reads $\frac{1}{5}$ of the book on Sunday. How much does she have left to read?



$$\frac{2}{5} + \frac{1}{5} = \frac{3}{5} \quad \frac{5}{5} - \frac{3}{5} = \frac{2}{5} \quad \text{Lucy has } \frac{2}{5} \text{ left to read.}$$

c

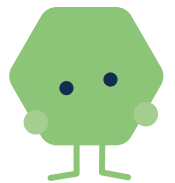
Simone is practising penalties against her brother. Her brother saves $\frac{1}{10}$ of them and $\frac{3}{10}$ of them hit the post. She scores the rest. What fraction does Simone score?



$$\frac{10}{10} - \frac{1}{10} - \frac{3}{10} = \frac{6}{10} \quad \text{Simone scored } \frac{6}{10} \text{ of her penalties.}$$

d

Jack and Jill are picking strawberries. Jack picks $\frac{3}{5}$ kg and Jill picks $\frac{2}{5}$ kg. Jack thinks they have picked $\frac{5}{10}$ kg in total. Is he right? Can you prove it?



Jack is wrong. He has added the numerators and the denominators. He should only have added the numerators

$$\frac{3}{5} + \frac{2}{5} = \frac{5}{5} \quad \text{Jack and Jill picked } \frac{5}{5} \text{ kg. This is the same as 1 kg.}$$



Writing, comparing, ordering, and rounding decimals

Question 1

What value do each of the digits in **bold** have? The first example has been done for you.

a	2 .65	2	tens	ones	tenths	hundredths
b	0.8 7	7	tens	ones	tenths	hundredths
c	31. 8	8	tens	ones	tenths	hundredths
d	5.0 9	9	tens	ones	tenths	hundredths
e	12. 31	1	tens	ones	tenths	hundredths
f	0. 4	4	tens	ones	tenths	hundredths



Writing, comparing, ordering, and rounding decimals

Question 2

Can you write these decimals in numerals on the place value grids?

a Zero point zero three

T	O	t	h
	0	0	3

b Ninety point five

T	O	t	h
9	0	5	

c Fifteen point seven two

T	O	t	h
1	5	7	2

d Six point zero six

T	O	t	h
	6	0	6

Question 3

What numbers are being represented in these place value grids?

a

T	O	t	h
	2	0	3

2.03

b

T	O	t	h
3	0	5	

30.5

c

T	O	t	h
	5	7	2

5.72

d

T	O	t	h
1	8	6	2

18.62



Writing, comparing, ordering, and rounding decimals

Question 4

Can you match these decimal numbers written in words with them written in numerals?

3.52	three point two five
35.2	thirty-two point zero five
30.52	three point five two
30.25	thirty-five point two
3.25	thirty point two five
32.05	thirty point five two

Question 5

Using $<$, $>$ or $=$, can you compare these decimal numbers as shown in place value grids?

a

T	O	t	h
	●	●	●●●

>

T	O	t	h
	1	0	9

b

T	O	t	h
	●●●●	●●●●●	●●●●

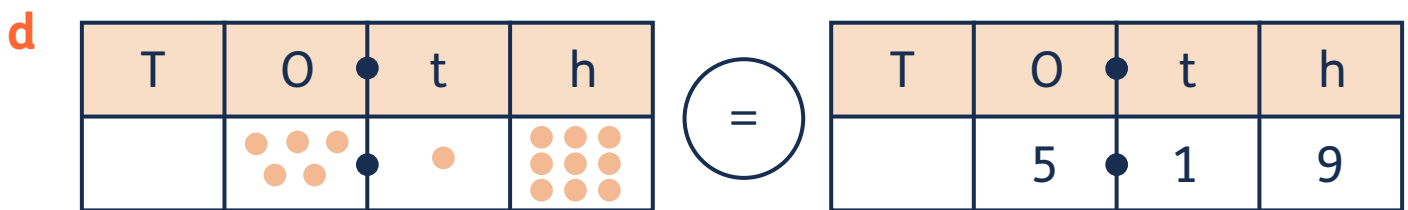
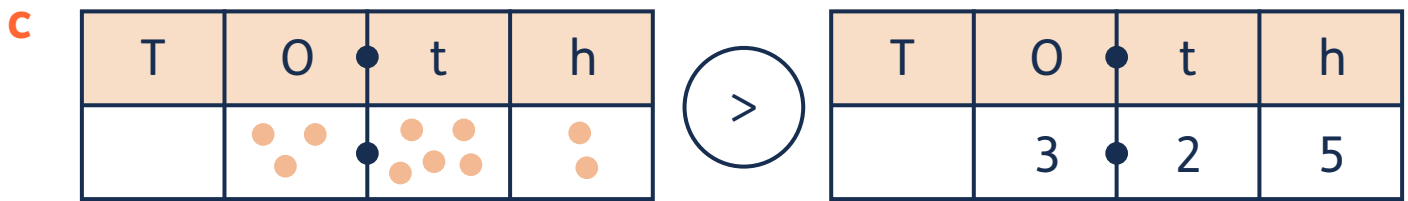
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T	O	t	h
	4	8	



Writing, comparing, ordering, and rounding decimals

Answer sheet



Question 6

Can you complete the gaps in these comparison statements to make them true? **Some acceptable answers are shown below.**

a $7.87 > 7.\boxed{7}9$

b $1.\boxed{0}.56 < 11.2$

c $4.\boxed{9} > 4.89$

d $\boxed{1}.09 < 1.2$

e $9.\boxed{9}\boxed{7} > 9.8$

f $0.65 > \boxed{0}.\boxed{6}\boxed{2}$

g $6.\boxed{1}\boxed{5} < 6.\boxed{2}$

h $7.\boxed{1} < 7.1\boxed{1}$



Writing, comparing, ordering, and rounding decimals

Answer sheet

Question 7

Using each of the number cards only once, can you put the decimals in the correct order?

An acceptable answer is shown below.

6

5

2

8

9

 $7 \cdot 91 > 7 \cdot 83 > 7 \cdot 56 > 7 \cdot 42$

Question 8

Can you arrange these decimals in ascending order?

3.56

35.6

3.65

36.5

30.65

13.56

3.06

 $3.06 < 3.56 < 3.65 < 13.56 < 30.65 < 35.6 < 36.5$


Writing, comparing, ordering, and rounding decimals

Question 9

Can you round these numbers to the nearest whole number?

a 3.9

4

b 2.1

2

c 6.5

7

d 11.4

11

e 11.5

12

f 13.3

13

Question 10

Put these numbers in the correct box depending on whether they round down or round up to the nearest whole number?

4.3, 12.8, 21.4, 7.1, 6.9, 5.5, 8.2, 10.6, 2.7

Round down	Round up
4.3	12.8
21.4	6.9
7.1	5.5
8.2	10.6
	2.7



Percentages and decimals

Answer sheet

Question 1

Look at this number square.

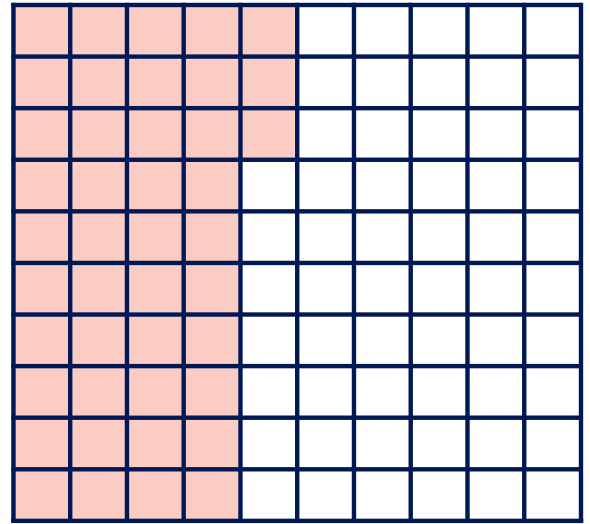
a How many equal parts has it been split into?

100

b Can you shade in 43 parts of the number square?

c How many parts are now not shaded?

57



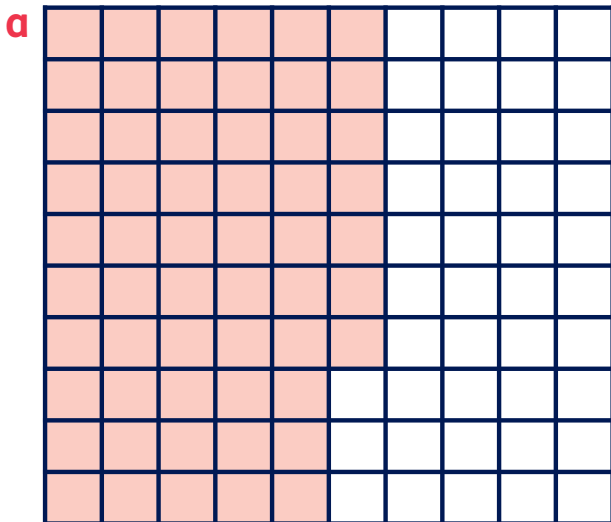
Complete these sentences.

d 43 parts per hundred are shaded. This is 43 %.

e 57 parts per hundred are not shaded. This is 57 %.

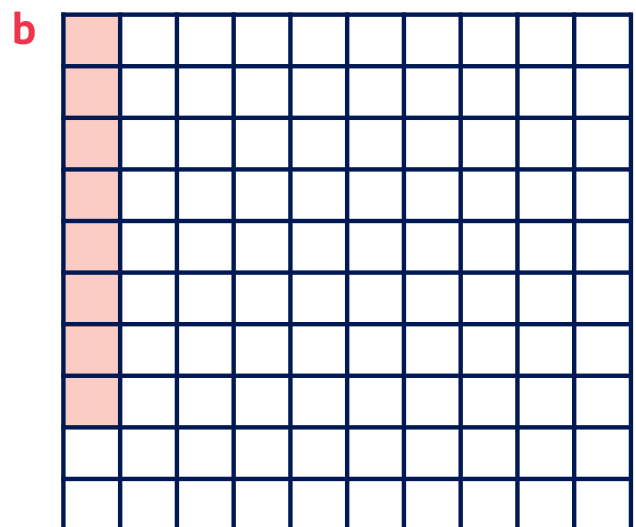
Question 2

Can you complete the sentences for these number squares?



Shaded: 57 parts per hundred

Unshaded: 43 parts per hundred



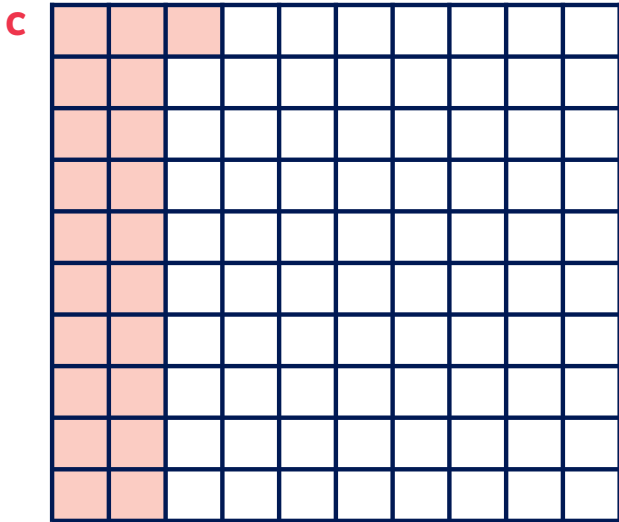
Shaded: 8 parts per hundred

Unshaded: 92 parts per hundred



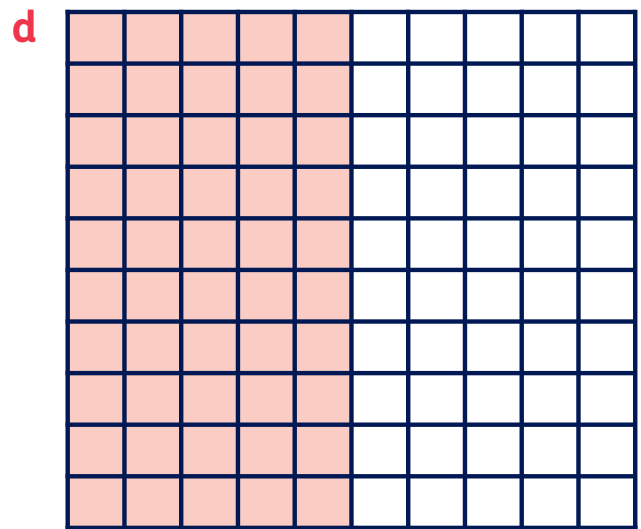
Percentages and decimals

Answer sheet



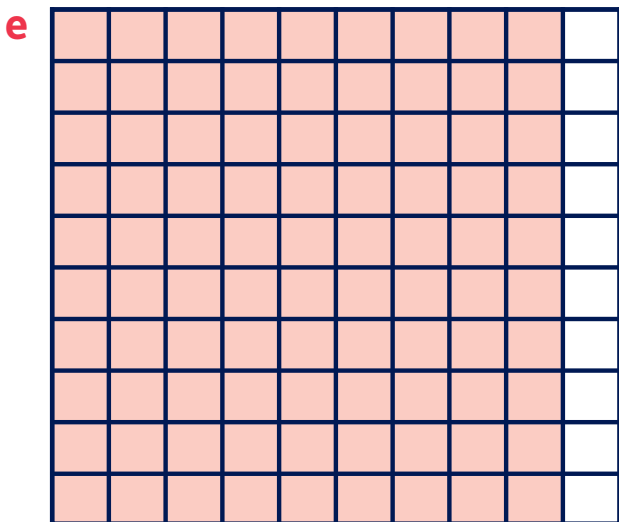
Shaded: %

Unshaded: %



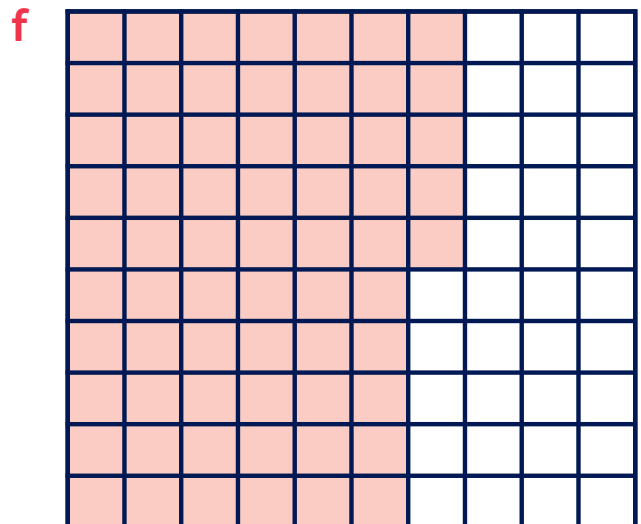
Shaded: %

Unshaded: %



Shaded: %

Unshaded: %



Shaded: %

Unshaded: %



Percentages and decimals

Answer sheet

Question 3

Can you complete these number sentences involving fractions, decimals and percentages?

a 31 parts per hundred = $\frac{31}{100} = 31\% = 0.31$

b 92 parts per hundred = $\frac{92}{100} = 92\% = 0.92$

c 8 parts per hundred = $\frac{8}{100} = 8\% = 0.08$

d 14 parts per hundred = $\frac{14}{100} = 14\% = 0.14$

Question 4

Can you find the matching pairs?

25% (A)	0.75 (B)	0.7 (C)	$\frac{7}{10}$ (C)
$\frac{3}{4}$ (B)	60% (D)	$\frac{4}{5}$ (E)	0.6 (D)
0.25 (A)	0.8 (E)	$\frac{1}{2}$ (F)	0.2 (G)
40% (H)	0.5 (F)	$\frac{1}{5}$ (G)	0.4 (H)



Percentages and decimals

Answer sheet

Question 5

Can you answer this word problem?

Kristie asked 100 children how they got to school.

- There are four ways children get to school: by walking, by car, by bus, by bicycle
- Twice as many children walk as take the bus.
- The most popular way to get to school is by car, with 40 children doing this.
- 14 fewer children walk than come by car.

What percent of children come to school:

by bus? %

by car? %

by bicycle? %

by walking? %



Percentages and decimals

Answer sheet

Question 6

Can you complete these addition calculations?

a $2.53 + 5.16 = \boxed{7.69}$

	T	O	•	t	h
		5	•	1	6
+		2	•	5	3
		7	•	6	9

b $7.06 + 1.75 = \boxed{8.81}$

	T	O	•	t	h
		7	•	0	6
+		1	•	7	5
		8	•	8	1
				1	

c $5.87 + 4.98 = \boxed{10.85}$

	T	O	•	t	h
		5	•	8	7
+		4	•	9	8
	1	0	•	8	5
		1		1	

d $13.93 + 8.09 = \boxed{22.02}$

	T	O	•	t	h
	1	3	•	9	3
+		8	•	0	9
	2	2	•	0	2
	1	1		1	



Percentages and decimals

Answer sheet

$$e \quad 3.49 + 16.54 = \boxed{20.03}$$

	T	O	•	t	h
	1	6	•	5	4
+		3	•	4	9
<hr/>					
	2	0	•	0	3
	1	1		1	

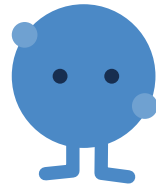
$$f \quad 10.28 + 9.82 = \boxed{20.10}$$

	T	O	•	t	h
	1	0	•	2	8
+		9	•	8	2
<hr/>					
	2	0	•	1	0
	1	1		1	

Question 7

Can you solve this word problem?

Jordan wants to buy a new t-shirt and a pair of shorts. The t-shirt costs £17.99 and the shorts costs £12.99. Jordan has £14.78 in his savings box and gets £13.55 from his paper round. Can Jordan buy the t-shirt and shorts?



The t-shirt and shorts cost: $£17.99 + £12.99 = £18 + £13 - £0.02 = £31 - £0.02 = £30.98$

Jordan has $£14.78 + £13.55 = £28.33$.
He can't buy the t-shirt and the shorts.

	T	O	•	t	h
	1	4	•	7	8
+	1	3	•	5	5
<hr/>					
	2	8	•	3	3
		1		1	



Percentages and decimals

Answer sheet

Question 8

Can you complete these addition calculations?

a $8.2 + 5.84 = 14.04$

	T	O	•	t	h
		8	•	2	0
+		5	•	8	4
	1	4	•	0	4
	1				

b $2.59 + 7.3 = 9.89$

	T	O	•	t	h
		7	•	3	0
+		2	•	5	9
		9	•	8	9

c $5.63 + 54.5 = 60.13$

	T	O	•	t	h
	5	4	•	5	0
+		5	•	6	3
	6	0	•	1	3
	1	1			

d $24.4 + 7.48 = 31.88$

	T	O	•	t	h
	2	4	•	4	0
+		7	•	4	8
	3	1	•	8	8
	1				



Percentages and decimals

Answer sheet

$$e \quad 5.4 + 75.86 = \boxed{81.26}$$

	T	O	•	t	h
	7	5	•	8	6
+		5	•	4	0
	8	1	•	2	6
	1	1			

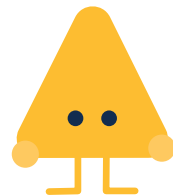
$$f \quad 24.81 + 42.3 = \boxed{67.11}$$

	T	O	•	t	h
	4	2	•	3	0
+	2	4	•	8	1
	6	7	•	1	1
		1			

Question 9

Can you solve this word problem?

Mrs Berry needs 2.5 kg of flour to bake some bread for her shop. She has one small bag of flour with 0.65 kg in it and one big bag with 1.8 kg in it. Does she have enough flour? Can you prove it?



	T	O	•	t	h
		1	•	8	0
+		0	•	6	5
		2	•	4	5
		1			

Mrs Berry needs 2.5 kg.

If you add together her small bag and her large bag, she has 2.45 kg.

Mrs Berry doesn't have enough flour.



Algebra and measures

Answer sheet

Question 1

Can you solve these equations? The first one has been done for you.

a $3p + 5 = 23$

$3p$	$= 18$
p	$= 6$

b $6m + 7 = 43$

$6m$	$= 36$
m	$= 6$

c $5y - 15 = 30$

$5y$	$= 45$
y	$= 9$

d $10m - 13 = 57$

$10m$	$= 70$
m	$= 7$

e $\frac{a}{4} + 3 = 9$

$\frac{a}{4}$	$= 6$
a	$= 24$

f $\frac{t}{3} - 2 = 16$

$\frac{t}{3}$	$= 18$
t	$= 54$

g $8h + 4 = 76$

$8h$	$= 72$
h	$= 9$



Algebra and measures

Answer sheet

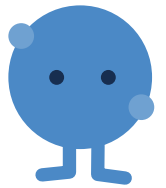
Question 2

Can you solve this problem?

I am thinking of a number, n .

When I multiply my number by 6 and add 35 to it, the answer is 101.

What is my number? Can you write an equation to show this?



Can you write your own number problem and write an equation for it?

$$6n + 35 = 101$$

$$6n = 66$$

$$n = 11$$

e.g. When I divide my number by 6, then subtract 8 from it, the

answer is 1. What is my number? ($\frac{a}{6} - 8 = 1$, $\frac{a}{6} = 9$, $a = 54$)

Question 3

Can you solve these equations?

a $3x + 9 = -6$

$$3x = -15$$

$$x = -5$$



Algebra and measures

Answer sheet

$$\mathbf{b} \quad 4y - 15 = 1$$

$$4y = 16$$

$$y = 4$$

$$\mathbf{c} \quad \frac{z}{7} - 1 = 9$$

$$\frac{z}{7} = 10$$

$$z = 70$$

$$\mathbf{d} \quad \frac{x}{7} + 1 = 3$$

$$\frac{x}{7} = 2$$

$$x = 14$$

$$\mathbf{e} \quad 20y + 1 = 17$$

$$20y = 16$$

$$y = 0.8$$

$$\mathbf{f} \quad \frac{2z}{7} - 1 = -3$$

$$\frac{2z}{7} = -2$$

$$2z = -14$$

$$z = -7$$

$$\mathbf{g} \quad 32 = 16 - 8a$$

$$8a + 32 = 16$$

$$8a = -16$$

$$a = -2$$



Algebra and measures

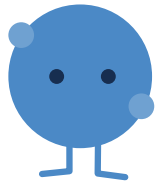
Answer sheet

Question 4

Can you solve this problem?

The French bakery, House of Pain, needs to make p baguettes. Each baguette requires 325 g of flour.

The bakery has 500g of flour in the shop. Choose an expression for the amount of flour that they need to buy.



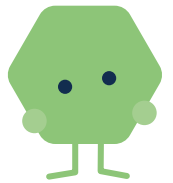
$\frac{p}{325} + 500$

$325p - 500$

$\frac{p}{325} - 500$

$325p + 500$

The bakery buys a 6kg bag of flour. How many baguettes can they bake?



$$325p - 500 = 6000$$

$$325p = 6500$$

$$p = 20$$



Algebra and measures

Answer sheet

Question 5

A rectangle has an area of 18cm^2 . If the length and width of the rectangle are whole numbers, what are the possible lengths and widths of the rectangle?

Length	width
18	1
9	2
6	3

The perimeter of the rectangle is the same as the area. Does this change what rectangles are possible? If so, how?

Some children may want to add a rectangle with a length of 3 cm and a width of 6 cm, a length of 2 cm and a width of 9 cm, and a length of 1 cm and a width of 18 cm. You might want to discuss that the length of a shape is given as the longest side of a rectangle.

Yes, this does change which rectangles are possible.

If the area is 18cm^2 and the perimeter is 18 cm, then only one rectangle is possible: a length of 6 cm and a width of 3 cm.



Algebra and measures

Answer sheet

Question 6

Two numbers, x and y , when added together have a value of 50. Both x and y are even and are greater than 10. What are the possible values of x and y ?

x	y
12	38
14	36
16	34
18	32
20	30
22	28
24	26
26	24
28	22
30	20
32	18
34	16
36	14
38	12

When multiplied together, $xy = 544$. How many possible values are there for x and y now?

When 16 and 34 are multiplied together, the total is 544. There are 2 possible values for x and y . Either:

$$x = 16 \text{ and } y = 34$$

$$x = 34 \text{ and } y = 16$$



Algebra and measures

Answer sheet

Question 7

Convert these measurements to the given unit.

a $5,000 \text{ m} = \boxed{5} \text{ km}$

b $11.5 \text{ km} = \boxed{11,500} \text{ m}$

c $225 \text{ cm} = \boxed{2.25} \text{ m}$

d $0.5 \text{ km} = \boxed{500} \text{ m}$

e $50 \text{ cl} = \boxed{500} \text{ ml}$

f $4,500 \text{ ml} = \boxed{4.5} \text{ litres}$

g $78,521 \text{ m} = \boxed{78.251} \text{ km}$

h $42 \text{ cm} = \boxed{0.42} \text{ m}$

i $89 \text{ cm} = \boxed{890} \text{ mm}$

j $400 \text{ ml} = \boxed{0.4} \text{ litres}$

k $5 \text{ litres} = \boxed{5,000} \text{ ml}$

l $2,451 \text{ g} = \boxed{2.451} \text{ kg}$



Algebra and measures

Answer sheet

Question 8

Can you solve these word problems?

- a** Boxes on a shelf weigh 450g. The maximum weight the shelving unit can hold is 25kg. How many boxes can safely be stored on the shelving unit?

$$25\text{kg} = 25,000\text{g}$$

$$25,000 \div 450 = 55.55\dots$$

55 boxes can be stored on the shelving unit.

- b** A can of juice has a capacity of 330ml. If 10 litres of juice are needed, how many cans must be bought?

$$10\text{ litres} = 10,000\text{ml}$$

$$10,000 \div 330 = 30.30\dots$$

31 cans of juice must be bought.

Question 9

If we know that 5 miles \approx 8km, can you use this fact to help complete these statements:

$$10\text{ miles} \approx \boxed{16}\text{ km}$$

$$\boxed{25}\text{ miles} \approx 40\text{km}$$

$$32\text{km} \approx \boxed{20}\text{ miles}$$

$$\boxed{800}\text{ km} \approx 500\text{ miles}$$



Algebra and measures

Answer sheet

Question 10

Tom's family are going on holiday. He and his parents are 65 miles away from their campsite. His grandparents are 100km away. Who is closer to the campsite?

Tom and his parents are 65 miles away.

5 miles \approx 8km.

($\times 13$) ($\times 13$)

65 miles \approx 104km.

Tom's grandparents are closer to the campsite.

