Key stage 2

Mathematics

Paper 2: reasoning

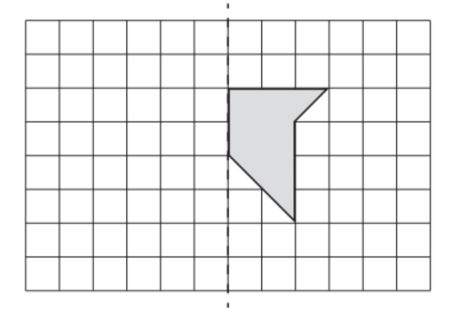| First name	
Middle name	
Last name	
Date of birth	Day	Month	Year
School name	
DfE number	

SATs Hive

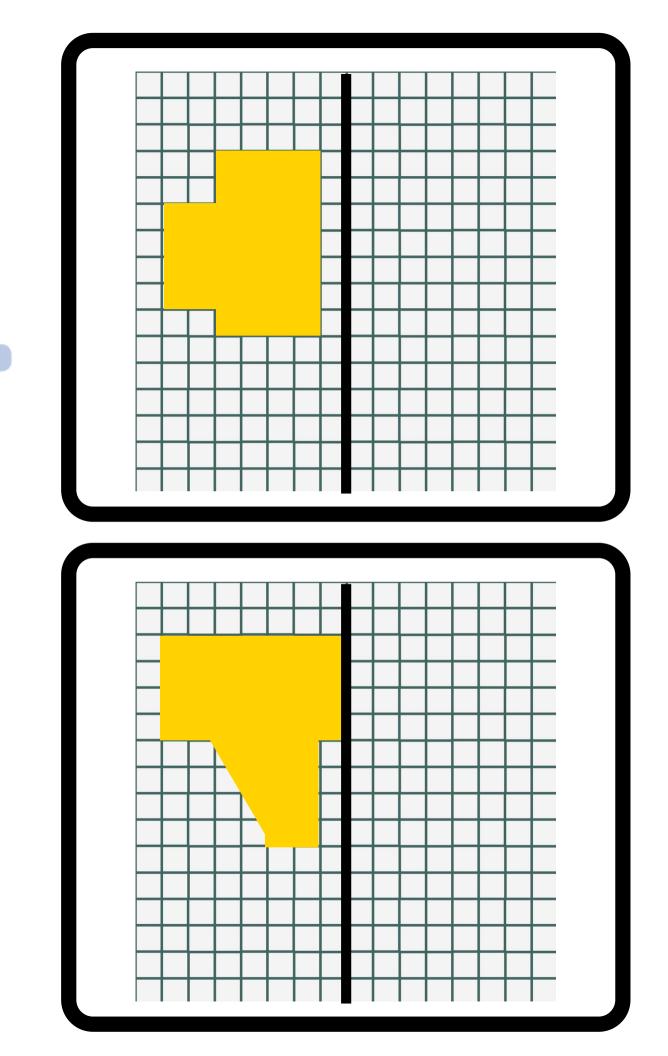**1** Here is a shape on a grid.

Complete the design so that it is symmetrical about the mirror line.

Use a ruler.

mirror line

SATs Hive

Answers
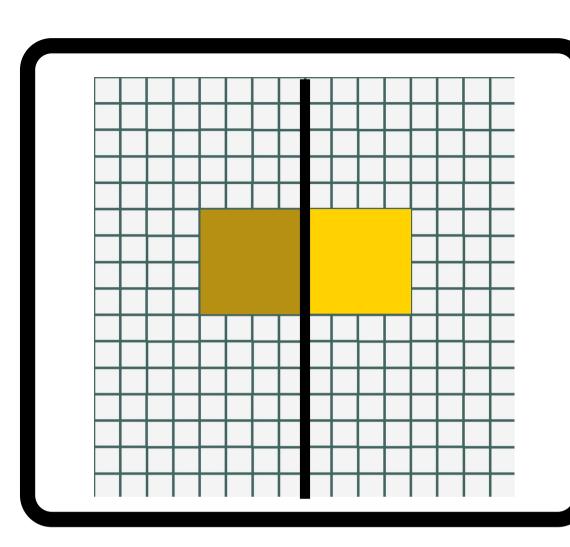

1 Here is a shape on a grid.

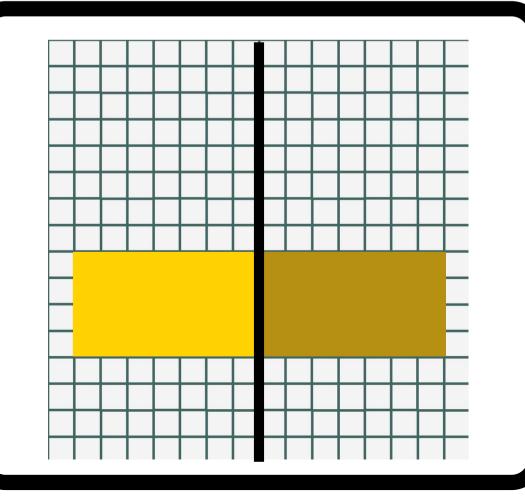Complete the design so that it is symmetrical about the mirror line.
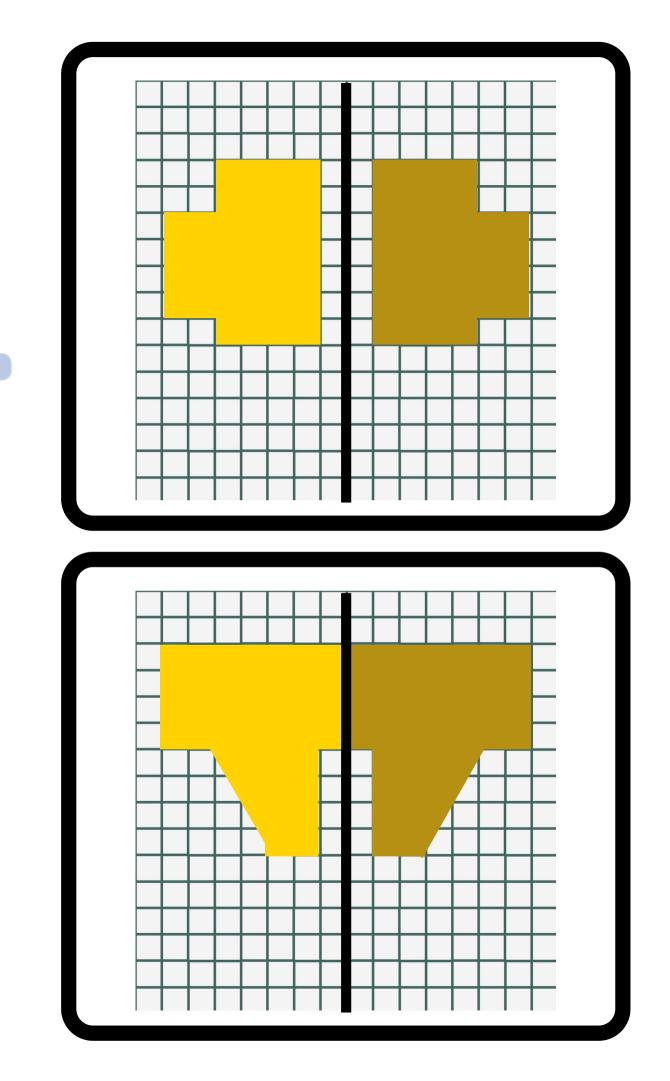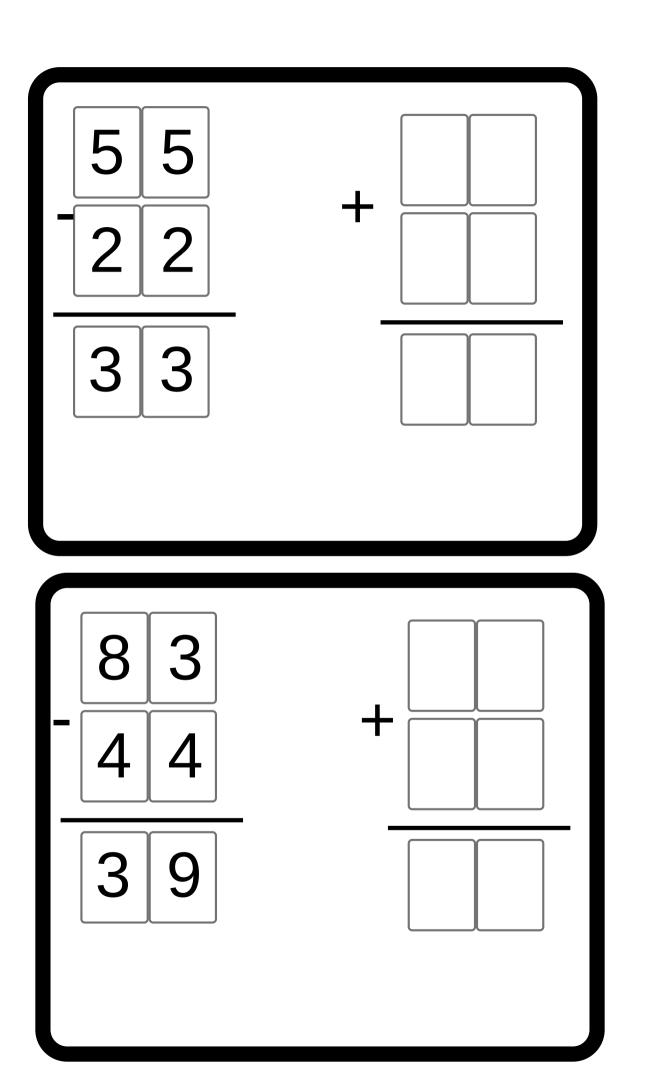
Use a ruler.

mirror line

$$\begin{array}{r} 5\;5 \\ -\;2\;2 \\ \hline 3\;3 \end{array} \qquad +$$

$$\begin{array}{r} 8\;3 \\ -\;4\;4 \\ \hline 3\;9 \end{array} \qquad +$$

$$\begin{array}{r} 7\;5 \\ -\;2\;2 \\ \hline 5\;3 \end{array} \qquad +$$

$$\begin{array}{r} 8\;3\;7 \\ -\;4\;4\;5 \\ \hline 3\;9\;2 \end{array} \qquad +$$

2 Stefan completes this calculation.

$$\begin{array}{r} 9\;5 \\ -\;6\;7 \\ \hline 2\;8 \end{array}$$

Write an **addition** calculation he could use to check his answer.

$$\begin{array}{r} \square\;\square \\ +\;\square\;\square \\ \hline \square\;\square \end{array}$$

1 mark

$$\begin{array}{r} 5\ 5 \\ -\ 2\ 2 \\ \hline 3\ 3 \end{array} \qquad \begin{array}{r} 3\ 3 \\ +\ 2\ 2 \\ \hline 5\ 5 \end{array}$$

$$\begin{array}{r} 7\ 5 \\ -\ 2\ 2 \\ \hline 5\ 3 \end{array} \qquad \begin{array}{r} 5\ 3 \\ +\ 2\ 2 \\ \hline 7\ 5 \end{array}$$

2 Stefan completes this calculation.

$$\begin{array}{r} 9\ 5 \\ -\ 6\ 7 \\ \hline 2\ 8 \end{array}$$
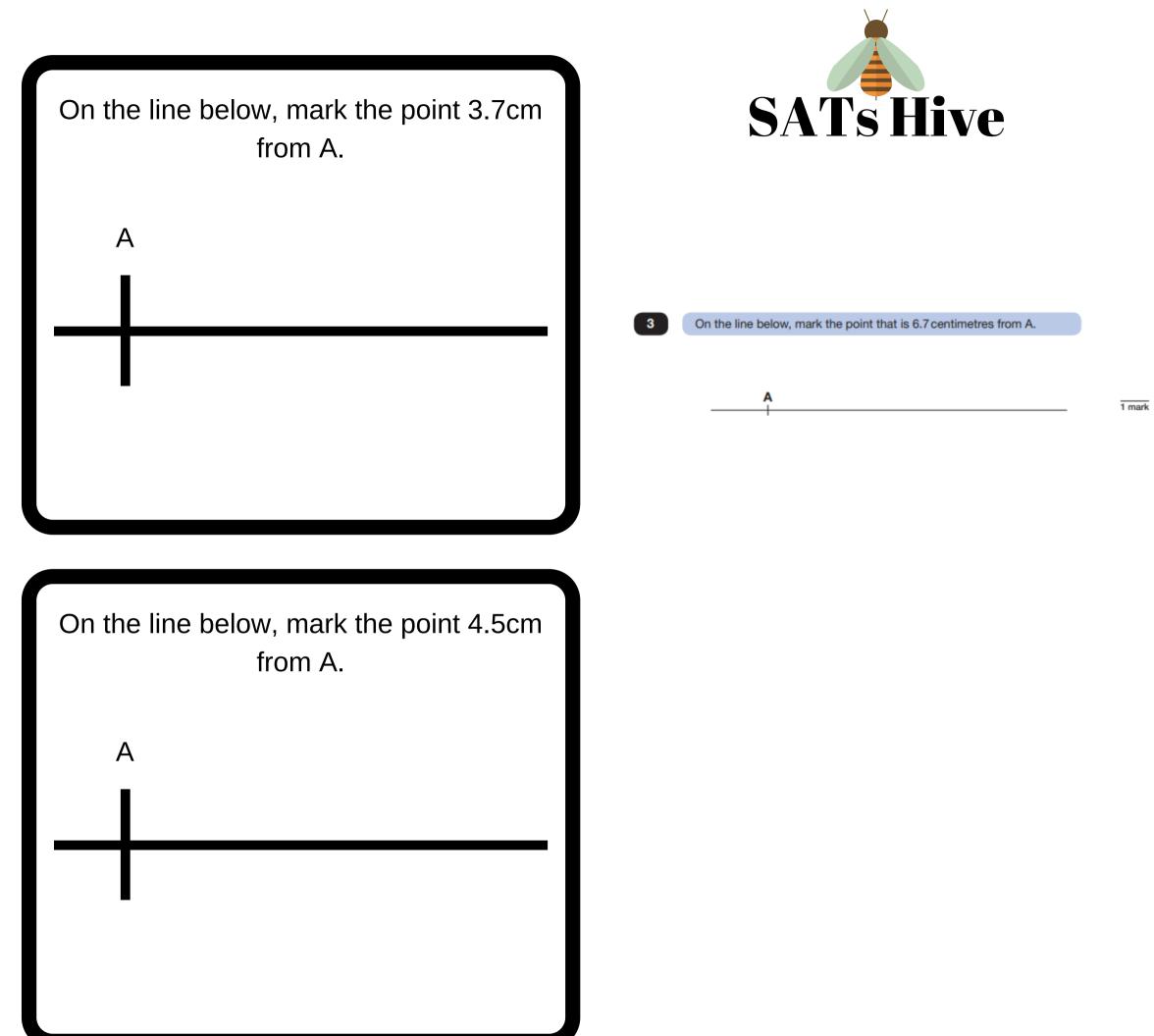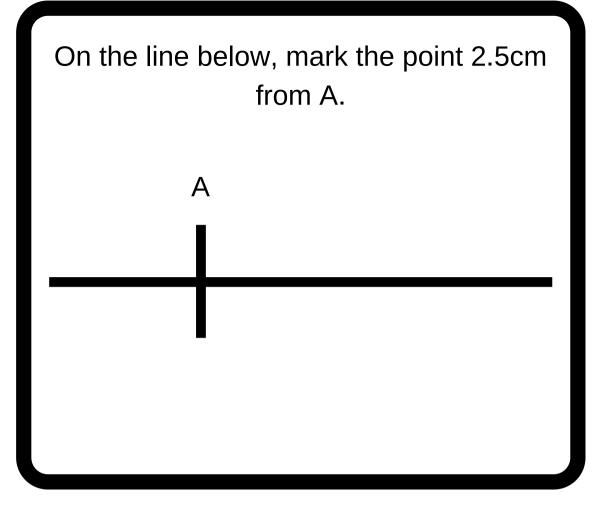
Write an **addition** calculation he could use to check his answer.

$$\begin{array}{r} \square\ \square \\ +\ \square\ \square \\ \hline \square\ \square \end{array}$$

1 mark

$$\begin{array}{r} 8\ 3 \\ -\ 4\ 4 \\ \hline 3\ 9 \end{array} \qquad \begin{array}{r} 4\ 4 \\ +\ 3\ 9 \\ \hline 8\ 3 \end{array}$$

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

On the line below, mark the point 3.7cm from A.

A

On the line below, mark the point 2.5cm from A.

A

SATs Hive

3 On the line below, mark the point that is 6.7 centimetres from A.

A

1 mark

On the line below, mark the point 4.5cm from A.

A

On the line below, mark the point 45mm from A.

A

SATs Hive
Answers

On the line below, mark the point 3.7cm from A.

A

On the line below, mark the point 2.5cm from A.

A

3 On the line below, mark the point that is 6.7 centimetres from A.

A

1 mark

On the line below, mark the point 4.5cm from A.

A

Print out the question and model using a ruler to mark the correct places.

On the line below, mark the point 45mm from A.

A

SATs Hive

These diagrams show three equivalent fractions.

$$\frac{1}{4} = \frac{2}{\boxed{}} = \frac{\boxed{}}{16}$$

These diagrams show three equivalent fractions.

$$\frac{2}{4} = \frac{4}{\boxed{}} = \frac{\boxed{}}{16}$$

4 These diagrams show three equivalent fractions.

Write the missing values.
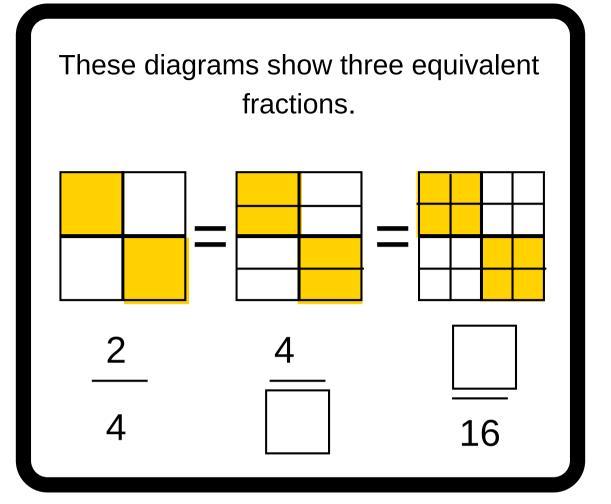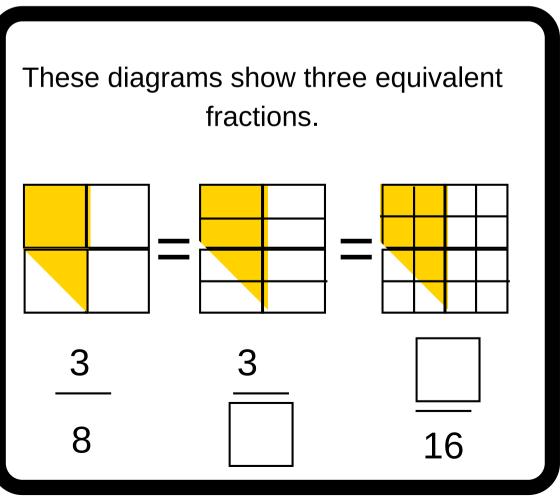
$$\frac{3}{4} = \frac{9}{\boxed{}} = \frac{\boxed{}}{24}$$

1 mark

These diagrams show three equivalent fractions.

$$\frac{2}{4} = \frac{4}{\boxed{}} = \frac{\boxed{}}{16}$$

These diagrams show three equivalent fractions.

$$\frac{3}{8} = \frac{3}{\boxed{}} = \frac{\boxed{}}{16}$$

SATs Hive

Answers

These diagrams show three equivalent fractions.

$$\frac{1}{4} = \frac{2}{\boxed{4}} = \frac{\boxed{4}}{16}$$

These diagrams show three equivalent fractions.

$$\frac{2}{4} = \frac{4}{\boxed{8}} = \frac{\boxed{8}}{16}$$

4 These diagrams show three equivalent fractions.

Write the missing values.

$$\frac{3}{4} = \frac{9}{\boxed{}} = \frac{\boxed{}}{24}$$

1 mark

These diagrams show three equivalent fractions.

$$\frac{2}{4} = \frac{4}{\boxed{8}} = \frac{8}{16}$$

These diagrams show three equivalent fractions.

$$\frac{3}{8} = \frac{3}{\boxed{8}} = \frac{\boxed{6}}{16}$$

SATs Hive

Top-left card

Temperature		
City	At midnight	At midday
London	4°C	12°C
Edinburgh	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

At midnight, how many degrees colder is Edinburgh than London?

Bottom-left card

Temperature		
City	At midnight	At midday
London	4°C	12°C
Edinburgh	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

At midday, how many degrees warmer is New York than Edinburgh?

Centre

5 Here are the temperatures in four cities at midnight and at midday.

Temperature		
City	At midnight	At midday
Paris	−4°C	−2°C
Oslo	−13°C	−7°C
Rome	3°C	10°C
Warsaw	−6°C	2°C

At **midnight**, how many degrees colder was Paris than Rome?

degrees

1 mark

Which city was 6 degrees colder at midnight than at midday?

_____

1 mark

Top-right card

Temperature		
City	At midnight	At midday
Berlin	2°C	5°C
Newcastle	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

Which city has the greatest difference in temperature between midnight and midday?

Bottom-right card

Temperature		
City	At midnight	At midday
Berlin	2°C	5°C
Newcastle	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

Which city has the smallest difference in temperature between midnight and midday?

SATs Hive
Answers

3°C

Temperature		
City	At midnight	At midday
London	4°C	12°C
Edinburgh	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

At midnight, how many degrees colder is Edinburgh than London?

8°C

Temperature		
City	At midnight	At midday
London	4°C	12°C
Edinburgh	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

At midday, how many degrees warmer is New York than Edinburgh?

5 Here are the temperatures in four cities at midnight and at midday.

Temperature		
City	At midnight	At midday
Paris	−4°C	−2°C
Oslo	−13°C	−7°C
Rome	3°C	10°C
Warsaw	−6°C	2°C

At **midnight**, how many degrees colder was Paris than Rome?

degrees

1 mark

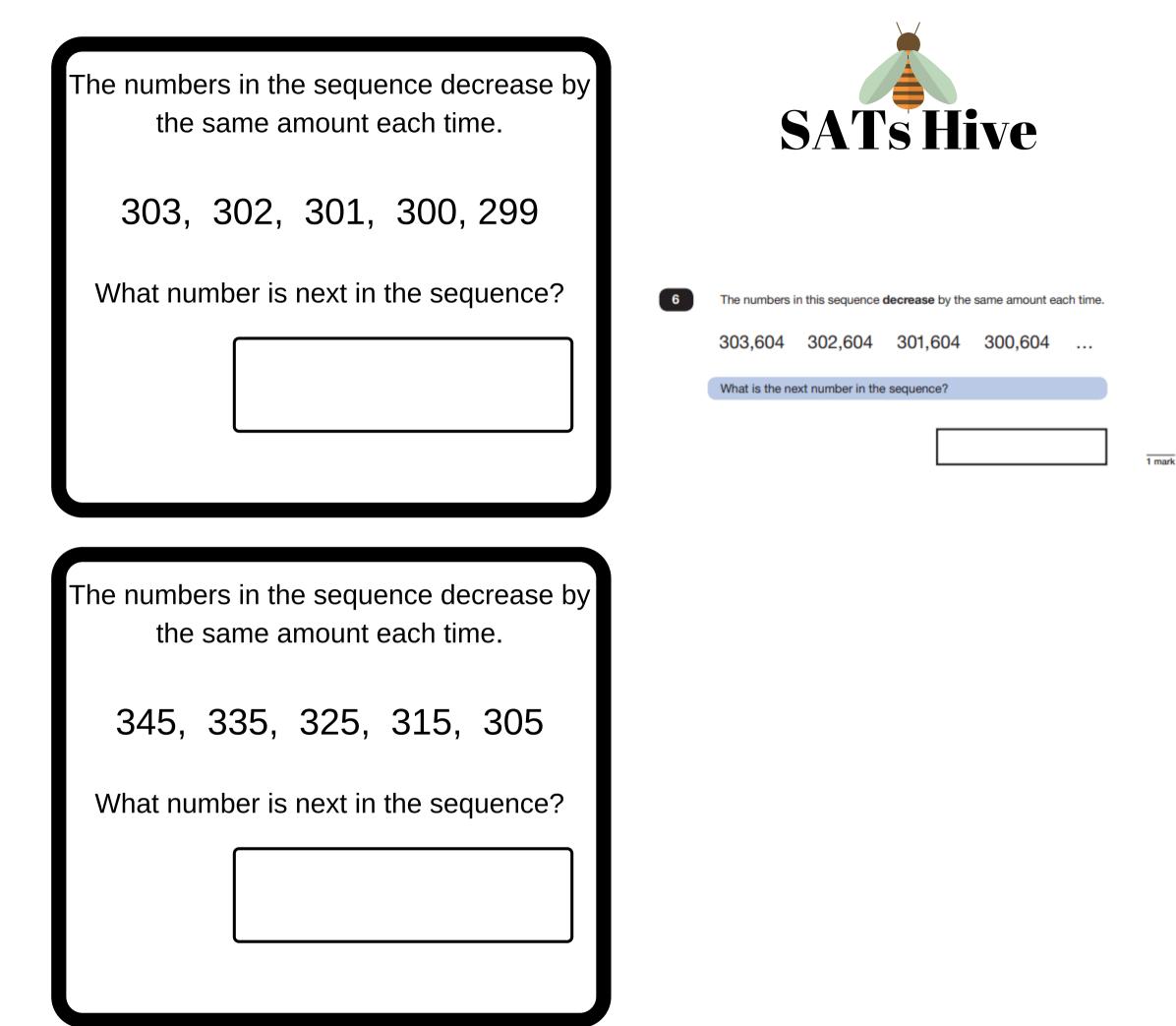Which city was 6 degrees colder at midnight than at midday?

_____ 1 mark

New York

Temperature		
City	At midnight	At midday
Berlin	2°C	5°C
Newcastle	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

Which city has the greatest difference in temperature between midnight and midday?

Berlin

Temperature		
City	At midnight	At midday
Berlin	2°C	5°C
Newcastle	1°C	7°C
New York	2°C	15°C
Moscow	-10C	-1°C

Which city has the smallest difference in temperature between midnight and midday?

SATs Hive
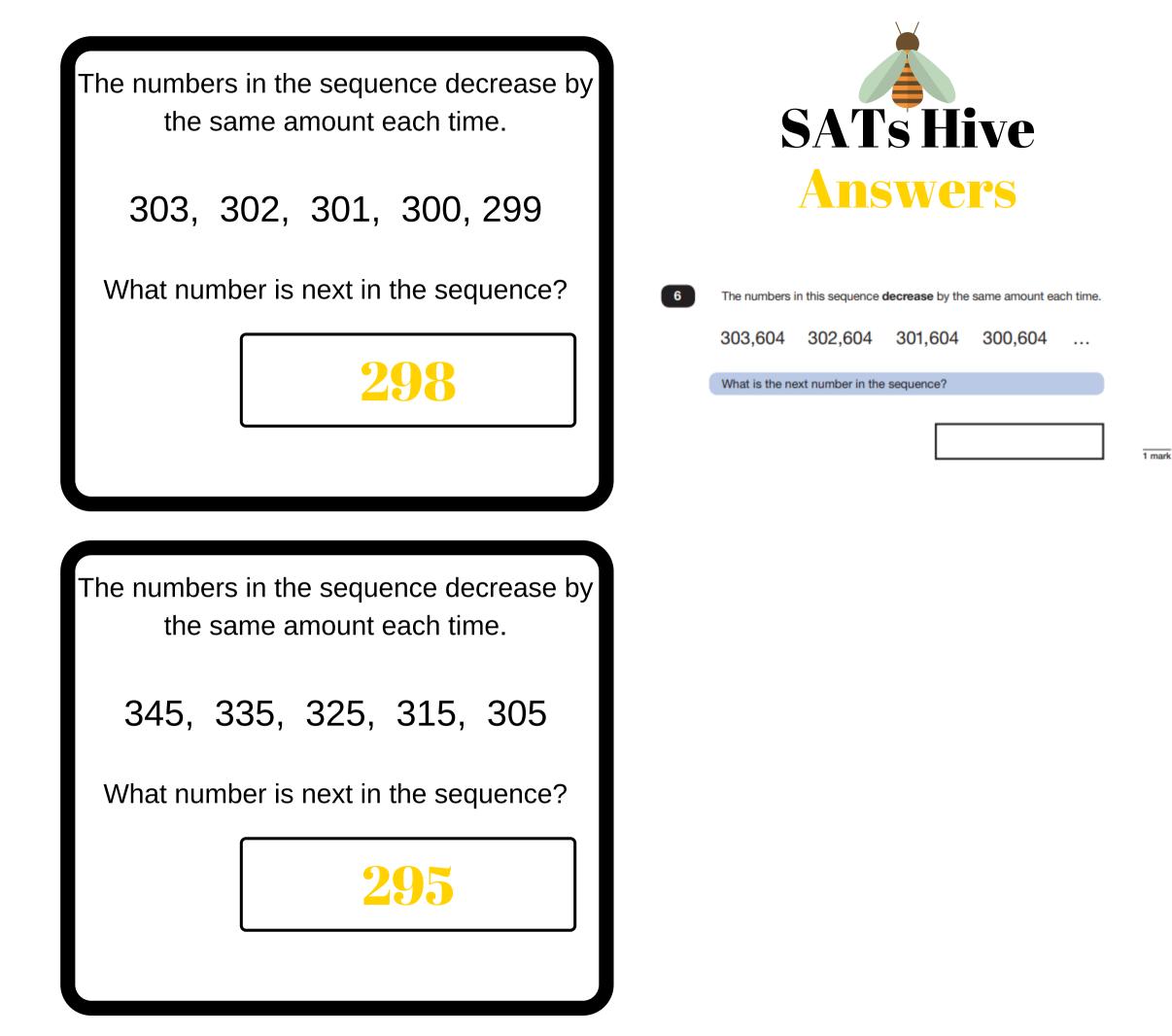
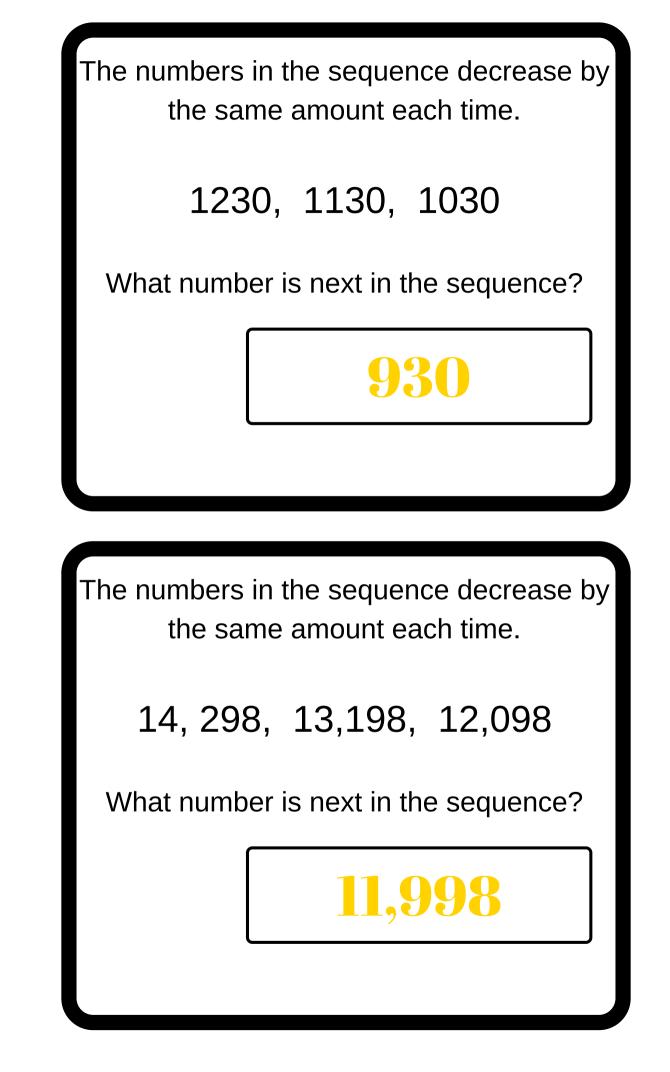The numbers in the sequence decrease by the same amount each time.

303, 302, 301, 300, 299

What number is next in the sequence?

[ ]

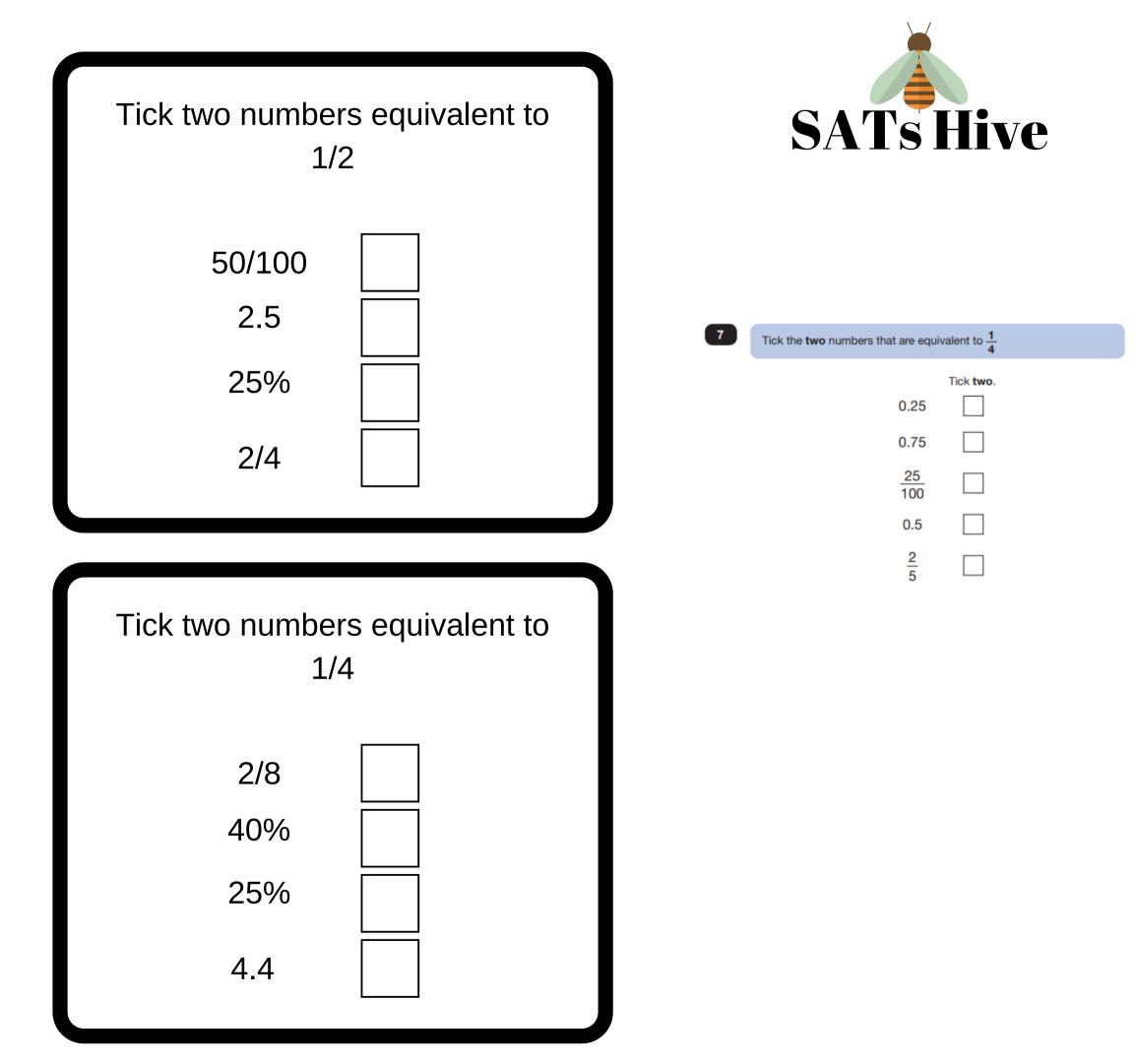
The numbers in the sequence decrease by the same amount each time.

1230, 1130, 1030

What number is next in the sequence?

[ ]

---

6 The numbers in this sequence **decrease** by the same amount each time.

303,604   302,604   301,604   300,604   …

What is the next number in the sequence?

[ ]   1 mark

The numbers in the sequence decrease by the same amount each time.

345, 335, 325, 315, 305

What number is next in the sequence?

[ ]
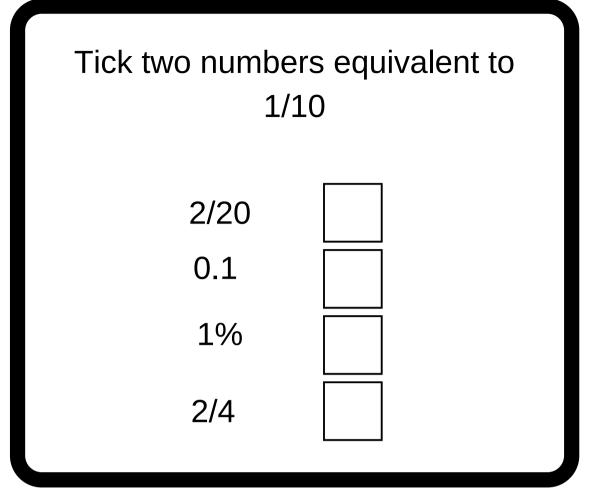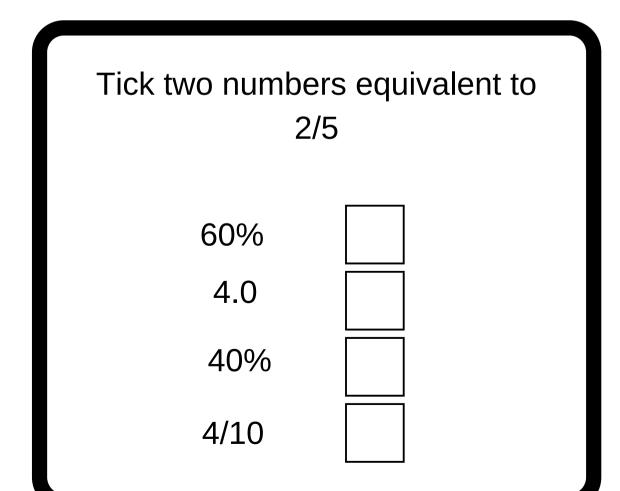

The numbers in the sequence decrease by the same amount each time.

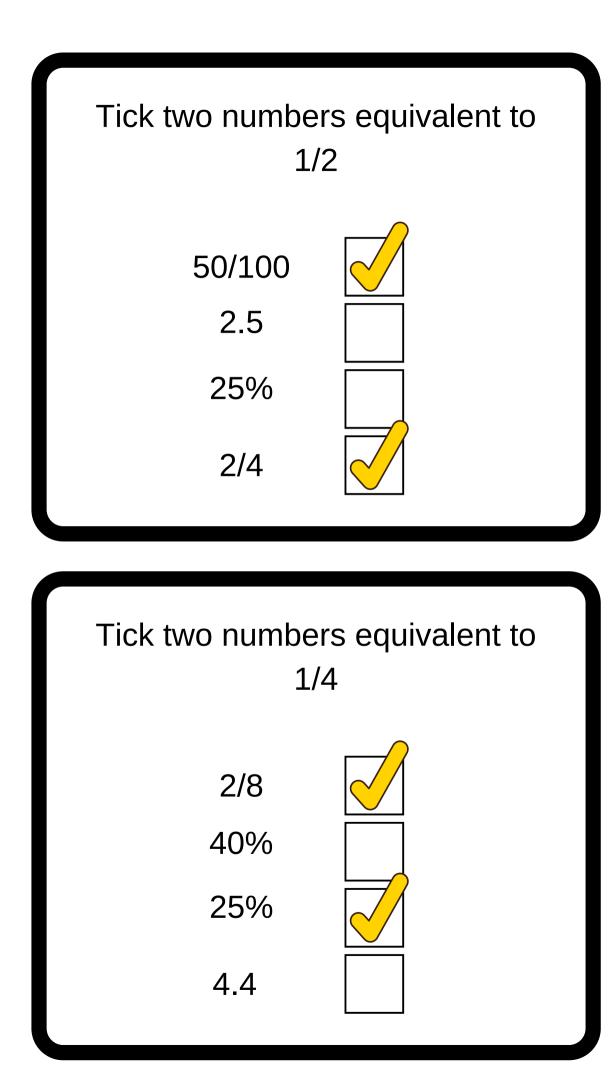14, 298, 13,198, 12,098

What number is next in the sequence?
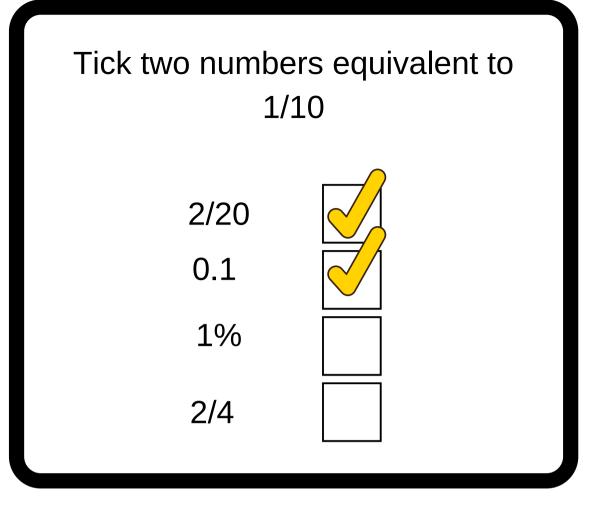
[ ]

The numbers in the sequence decrease by the same amount each time.

303, 302, 301, 300, 299

What number is next in the sequence?

298

The numbers in the sequence decrease by the same amount each time.

345, 335, 325, 315, 305

What number is next in the sequence?

295

SATs Hive
Answers

6 | The numbers in this sequence **decrease** by the same amount each time.

303,604   302,604   301,604   300,604   …

What is the next number in the sequence?

1 mark

The numbers in the sequence decrease by the same amount each time.

1230, 1130, 1030

What number is next in the sequence?

930

The numbers in the sequence decrease by the same amount each time.

14, 298, 13,198, 12,098

What number is next in the sequence?

11,998

SATs Hive

Tick two numbers equivalent to 1/2

50/100 ☐

2.5 ☐

25% ☐

2/4 ☐

Tick two numbers equivalent to 1/10

2/20 ☐

0.1 ☐

1% ☐

2/4 ☐

Tick two numbers equivalent to 1/4

2/8 ☐

40% ☐

25% ☐

4.4 ☐

Tick two numbers equivalent to 2/5

60% ☐

4.0 ☐

40% ☐

4/10 ☐

---

7 Tick the **two** numbers that are equivalent to $\frac{1}{4}$

Tick **two**.

0.25 ☐

0.75 ☐

$\frac{25}{100}$ ☐

0.5 ☐

$\frac{2}{5}$ ☐

1 mark

SATs Hive

Answers

Tick two numbers equivalent to 1/2

50/100	✓
2.5	
25%	
2/4	✓

Tick two numbers equivalent to 1/4

2/8	✓
40%	
25%	✓
4.4	

7 Tick the **two** numbers that are equivalent to $\frac{1}{4}$

Tick **two.**

0.25	
0.75	
$\frac{25}{100}$	
0.5	
$\frac{2}{5}$	

1 mark

Tick two numbers equivalent to 1/10

2/20	✓
0.1	✓
1%	
2/4	

Tick two numbers equivalent to 2/5

60%	
4.0	
40%	✓
4/10	✓

SATs Hive

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

24 large sweets

12 small sweets

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?
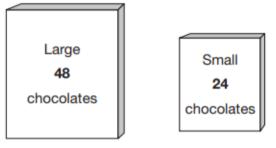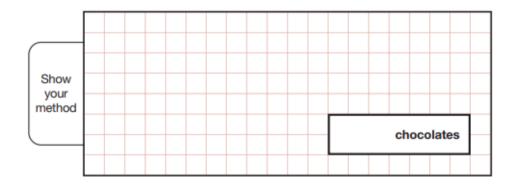
18 large sweets

6 small sweets

---

8 Ken buys 3 large boxes and 2 small boxes of chocolates.

Each large box has 48 chocolates. Each small box has 24 chocolates.

Large
48
chocolates

Small
24
chocolates

How many **chocolates** did Ken buy altogether?

Show your method

chocolates

2 marks

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

30 large sweets

18 small sweets

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

56 large sweets

36 small sweets

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

84

24 large sweets

12 small sweets

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

66

18 large sweets

6 small sweets

SATs Hive

Answers

8 Ken buys 3 large boxes and 2 small boxes of chocolates.

Each large box has 48 chocolates. Each small box has 24 chocolates.

Large
48
chocolates

Small
24
chocolates

How many **chocolates** did Ken buy altogether?

Show your method

chocolates

2 marks

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

126

30 large sweets

18 small sweets

Carl buys 3 large boxes an 2 small boxes of sweets.

How many sweets does he have all together?

240

56 large sweets

36 small sweets

The Olympics have been held in
2004, 2008, 2010, 2012, 2016

Natalie says,

The Olympics have been held ievery four years

Explain why Natalie is wrong.

9 The list below shows the years in which the Cricket World Cup was held since 1992:

1992, 1996, 1999, 2003, 2007, 2011, 2015

Adam says,

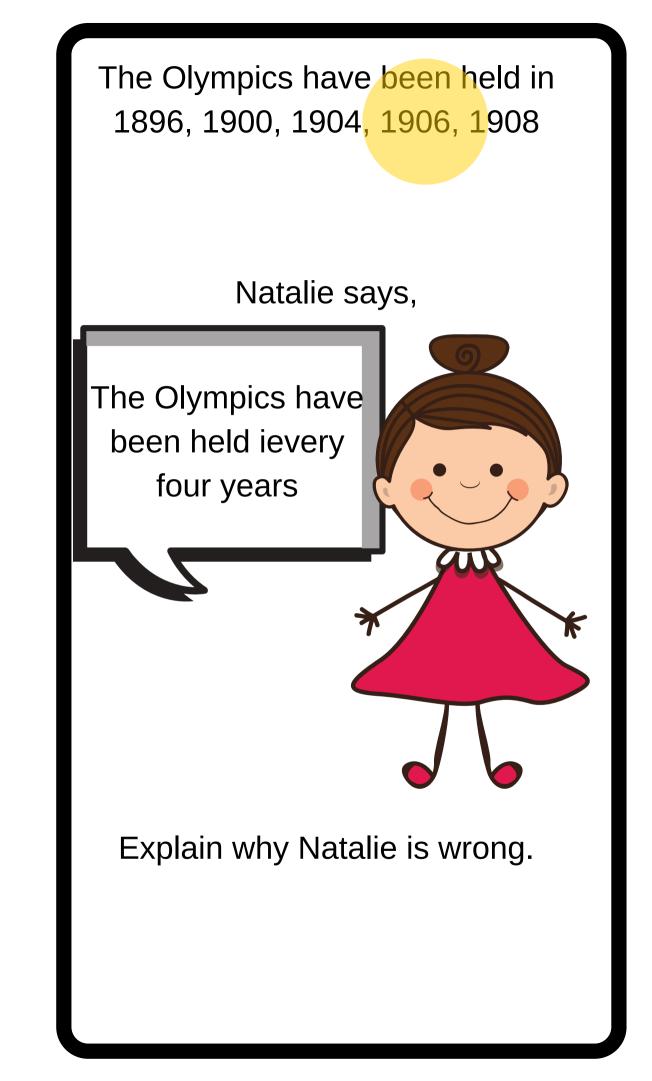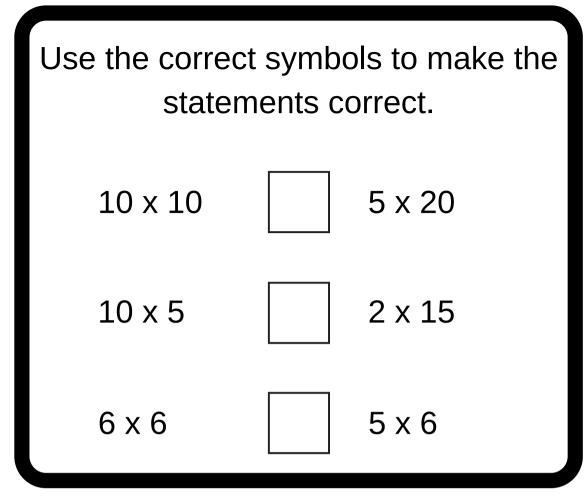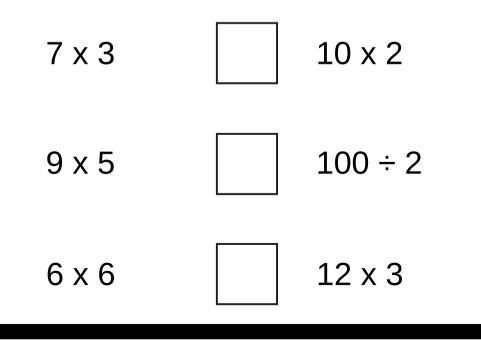The Cricket World Cup has been held every four years since 1992.

Adam is **not** correct.

Explain how you know.

The Olympics have been held in
1896, 1900, 1904, 1906, 1908

Natalie says,

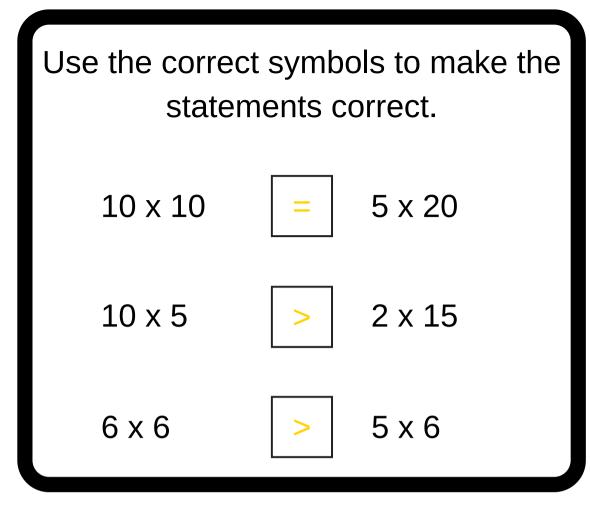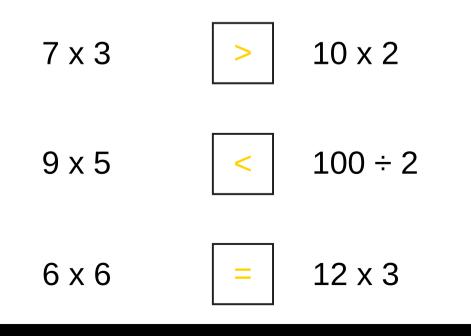The Olympics have been held ievery four years
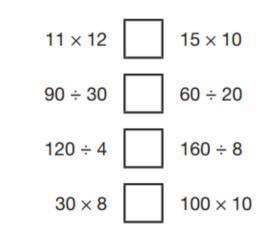
Explain why Natalie is wrong.

SATs Hive

Use the correct symbols to make the statements correct.

10 x 10 ☐ 5 x 20

10 x 5 ☐ 2 x 15

6 x 6 ☐ 5 x 6

Use the correct symbols to make the statements correct.

7 x 3 ☐ 10 x 2

9 x 5 ☐ 100 ÷ 2

6 x 6 ☐ 12 x 3

Use the correct symbols to make the statements correct.

60 ÷ 2 ☐ 600 ÷ 20

30 x 3 ☐ 300 x 1

20 x 5 ☐ 100 ÷ 1

Use the correct symbols to make the statements correct.

70 x 3 ☐ 100 x 2

160 ÷ 4 ☐ 240 ÷ 3
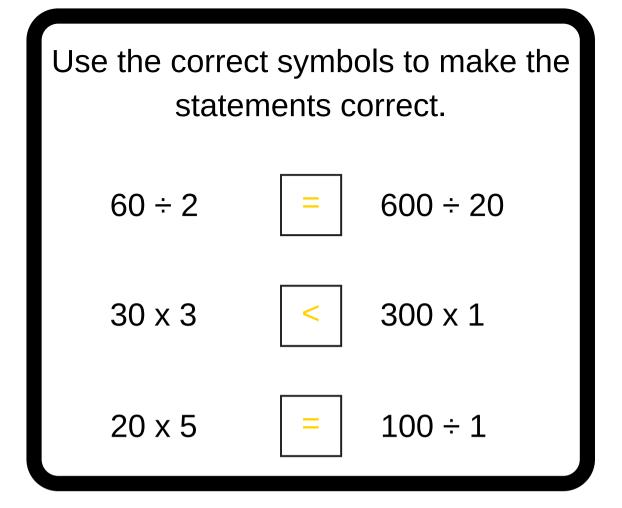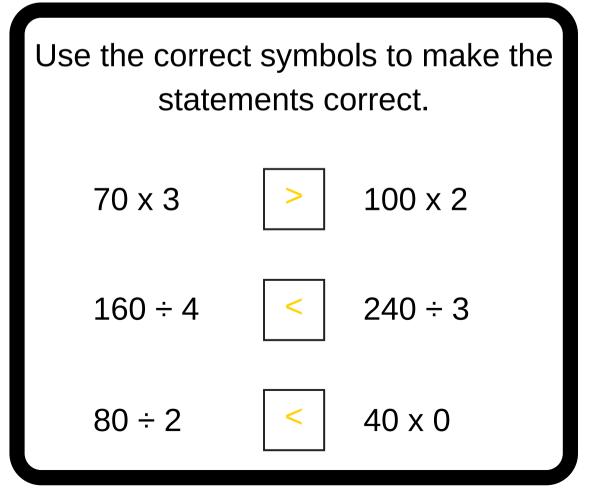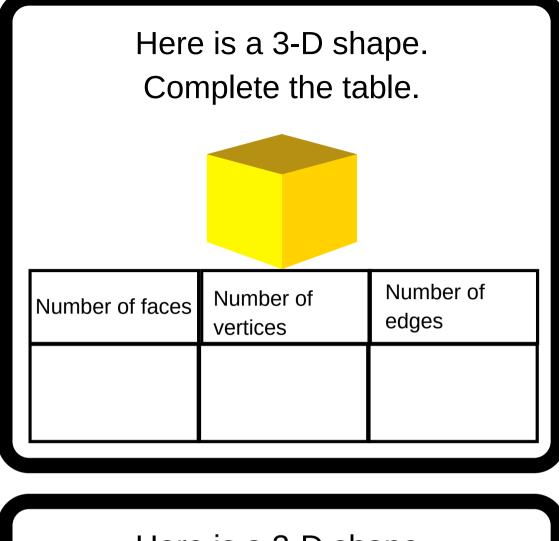
80 ÷ 2 ☐ 40 x 0

10

| > | = | < |

Write the correct symbol in each box to make the statements correct.

11 × 12 ☐ 15 × 10

90 ÷ 30 ☐ 60 ÷ 20

120 ÷ 4 ☐ 160 ÷ 8

30 × 8 ☐ 100 × 10

2 marks

SATs Hive
Answers

Use the correct symbols to make the statements correct.

10 x 10 [=] 5 x 20

10 x 5 [>] 2 x 15

6 x 6 [>] 5 x 6

Use the correct symbols to make the statements correct.

7 x 3 [>] 10 x 2

9 x 5 [<] 100 ÷ 2

6 x 6 [=] 12 x 3

10

[>] [=] [<]

Write the correct symbol in each box to make the statements correct.

11 × 12 [ ] 15 × 10

90 ÷ 30 [ ] 60 ÷ 20

120 ÷ 4 [ ] 160 ÷ 8

30 × 8 [ ] 100 × 10

2 marks

Use the correct symbols to make the statements correct.

60 ÷ 2 [=] 600 ÷ 20

30 x 3 [<] 300 x 1

20 x 5 [=] 100 ÷ 1

Use the correct symbols to make the statements correct.

70 x 3 [>] 100 x 2
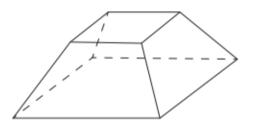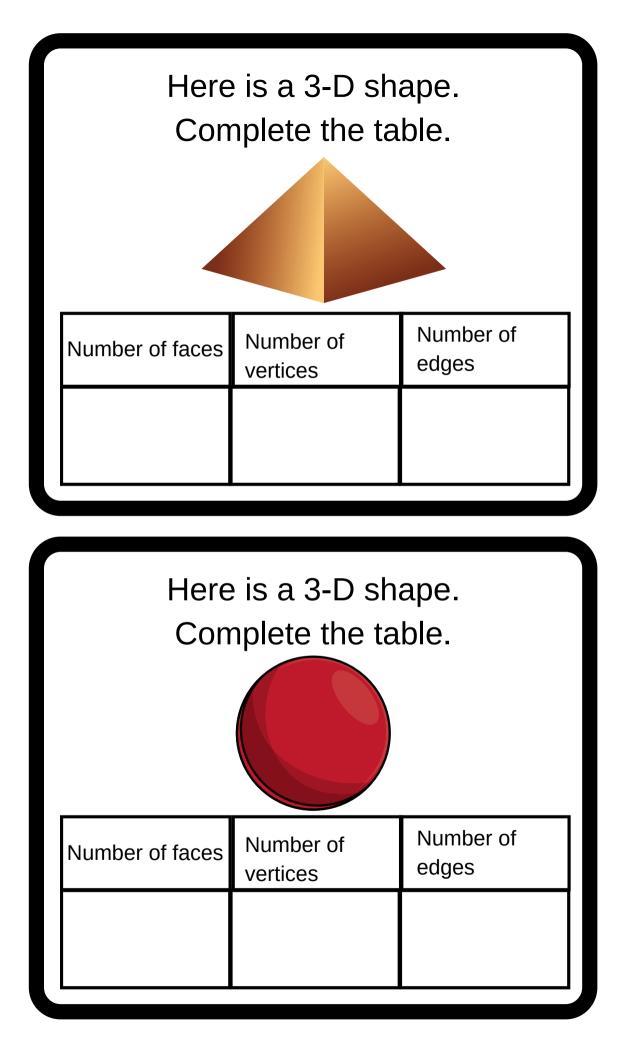
160 ÷ 4 [<] 240 ÷ 3

80 ÷ 2 [<] 40 x 0

SATs Hive

Here is a 3-D shape. Complete the table.

Number of faces	Number of vertices	Number of edges

Here is a 3-D shape. Complete the table.

Number of faces	Number of vertices	Number of edges

Here is a 3-D shape. Complete the table.

Number of faces	Number of vertices	Number of edges

Here is a 3-D shape. Complete the table.

Number of faces	Number of vertices	Number of edges

11 Here is a drawing of a 3-D shape.

Complete the table.
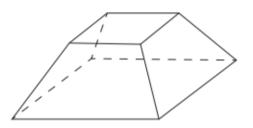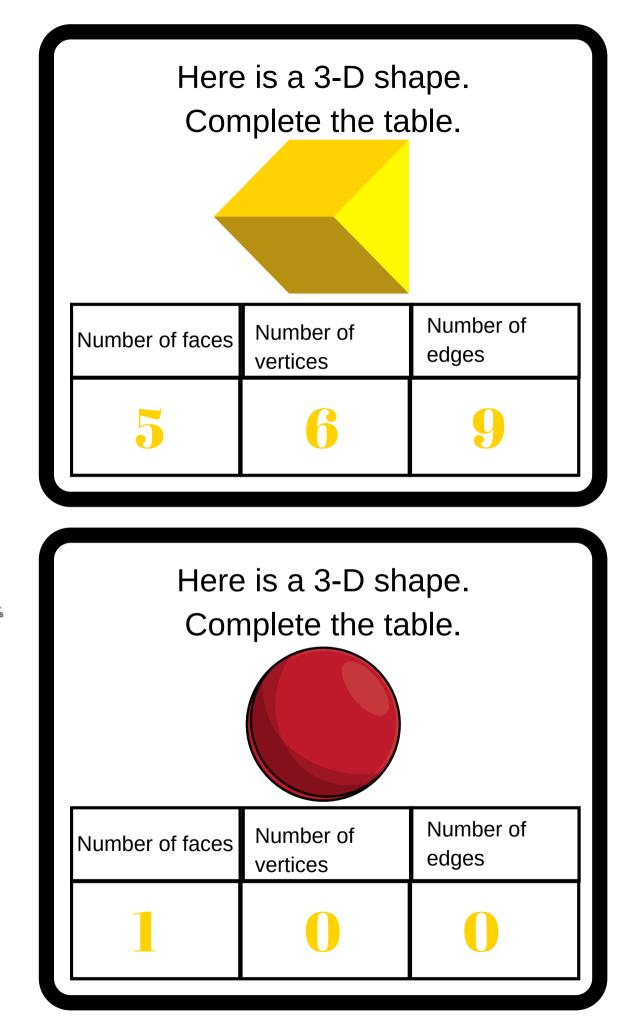
Number of faces	Number of vertices	Number of edges

2 marks

SATs Hive
Answers

Card 1 (top left):

Here is a 3-D shape.
Complete the table.

Number of faces	Number of vertices	Number of edges
6	8	12

Card 2 (top right):

Here is a 3-D shape.
Complete the table.

Number of faces	Number of vertices	Number of edges
5	6	9

Center:

11 Here is a drawing of a 3-D shape.

Complete the table.

Number of faces	Number of vertices	Number of edges

2 marks

Card 3 (bottom left):

Here is a 3-D shape.
Complete the table.

Number of faces	Number of vertices	Number of edges
6	8	12

Card 4 (bottom right):

Here is a 3-D shape.
Complete the table.

Number of faces	Number of vertices	Number of edges
1	0	0

Here is a shape on a grid.
The shape is translated so that point A moves to (8,5).

Draw the shape in its new place.

Here is a shape on a grid.
The shape is translated so that point A moves to (10,9).

Draw the shape in its new place.

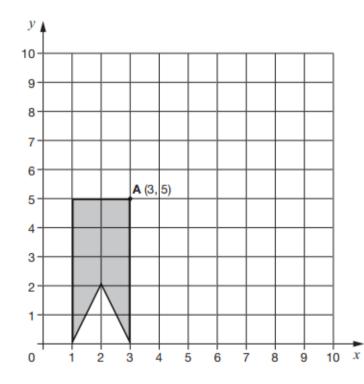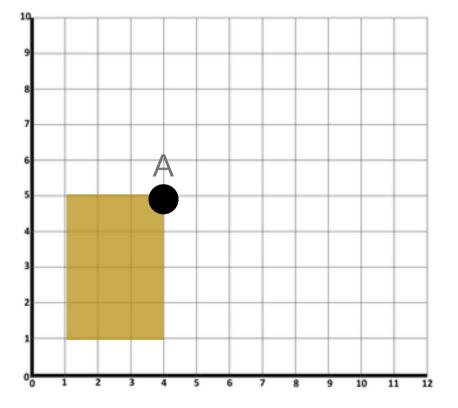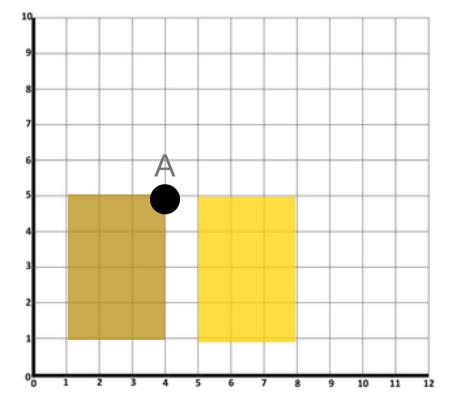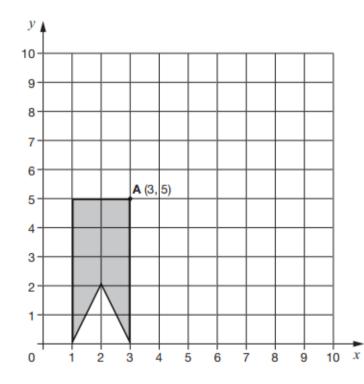**12** Here is a shape on a grid.

The shape is translated so that point **A** moves to (7, 8).

Draw the shape in its new position.

Use a ruler.

A (3, 5)

1 mark

Here is a shape on a grid.
The shape is translated so that point A moves to (8,5).

Draw the shape in its new place.

12 Here is a shape on a grid.

The shape is translated so that point **A** moves to (7, 8).
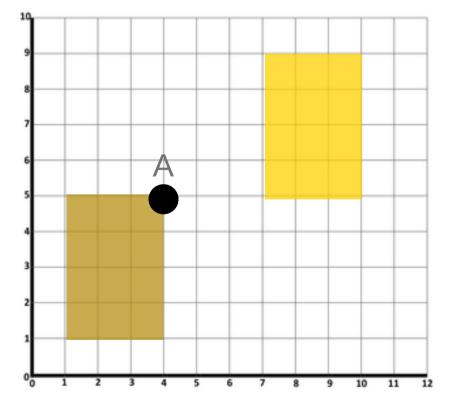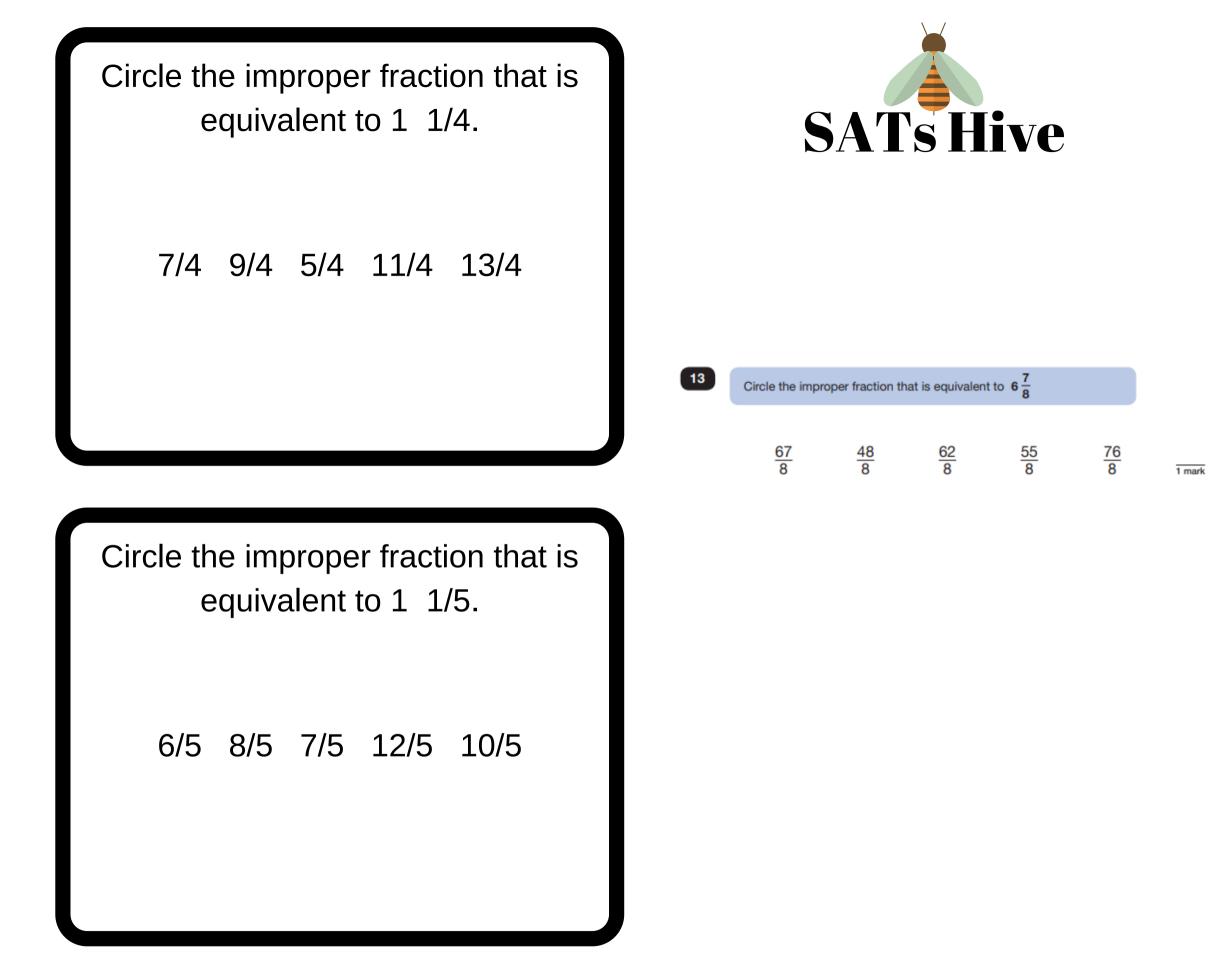
Draw the shape in its new position.

Use a ruler.

A (3, 5)

1 mark

Here is a shape on a grid.
The shape is translated so that point A moves to (10,9).
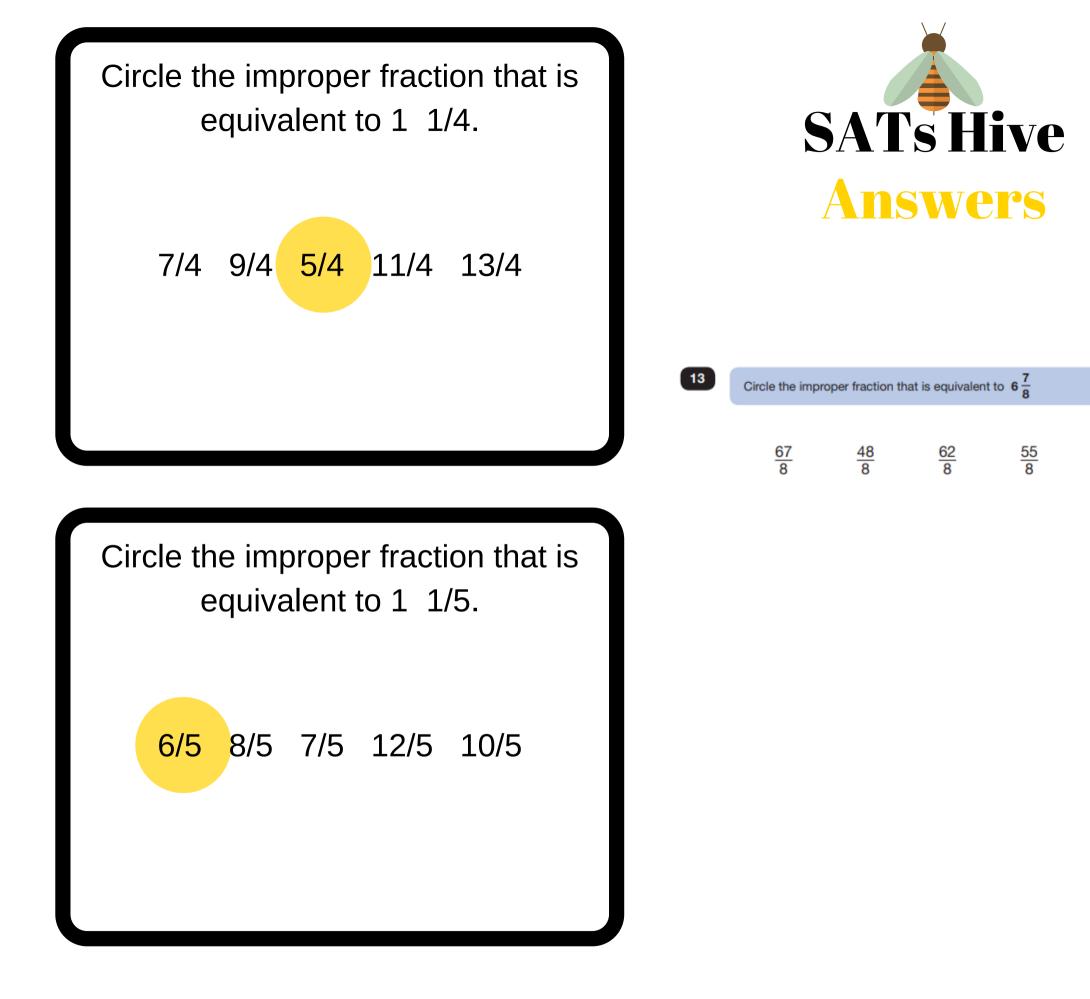
Draw the shape in its new place.

SATs Hive
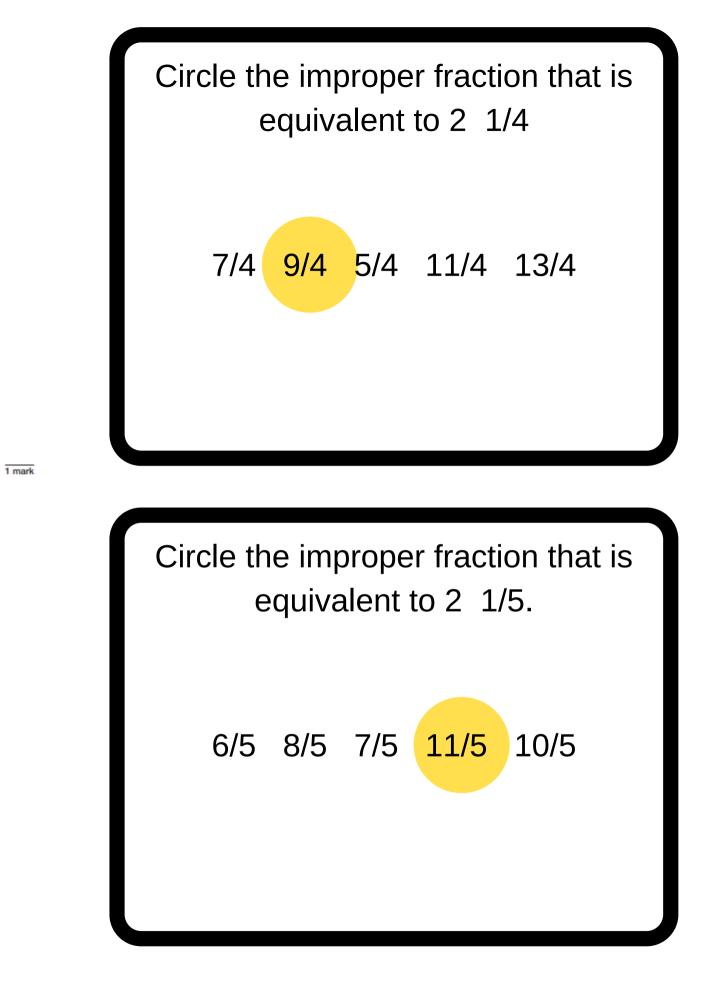
Circle the improper fraction that is equivalent to 1 1/4.

7/4   9/4   5/4   11/4   13/4

Circle the improper fraction that is equivalent to 2 1/4

7/4   9/4   5/4   11/4   13/4

13 Circle the improper fraction that is equivalent to $6\frac{7}{8}$

$\frac{67}{8}$ $\frac{48}{8}$ $\frac{62}{8}$ $\frac{55}{8}$ $\frac{76}{8}$ 1 mark

Circle the improper fraction that is equivalent to 1 1/5.

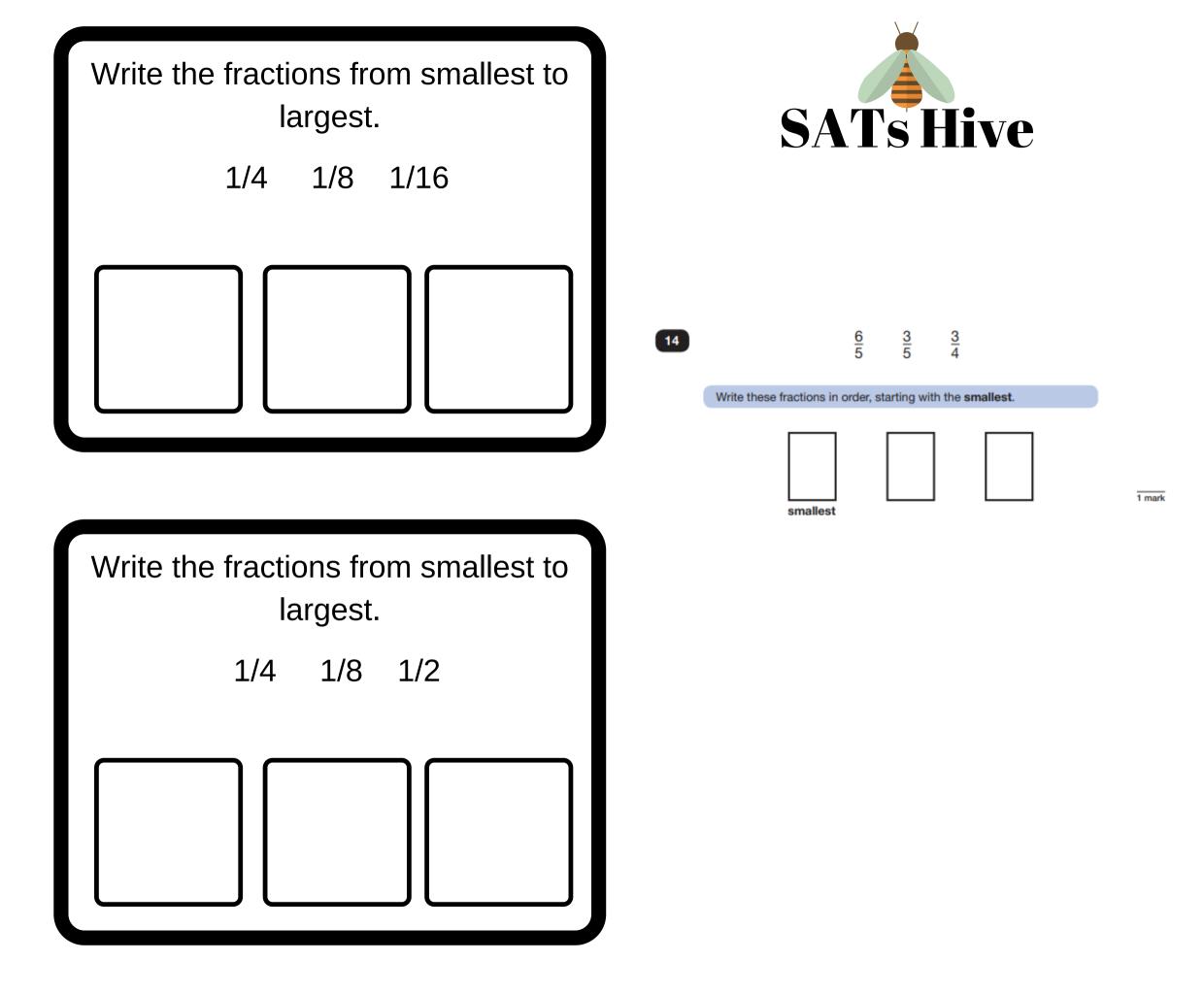6/5   8/5   7/5   12/5   10/5

Circle the improper fraction that is equivalent to 2 1/5.

6/5   8/5   7/5   11/5   10/5

SATs Hive

Answers

Circle the improper fraction that is equivalent to 1 1/4.

7/4   9/4   **5/4**   11/4   13/4
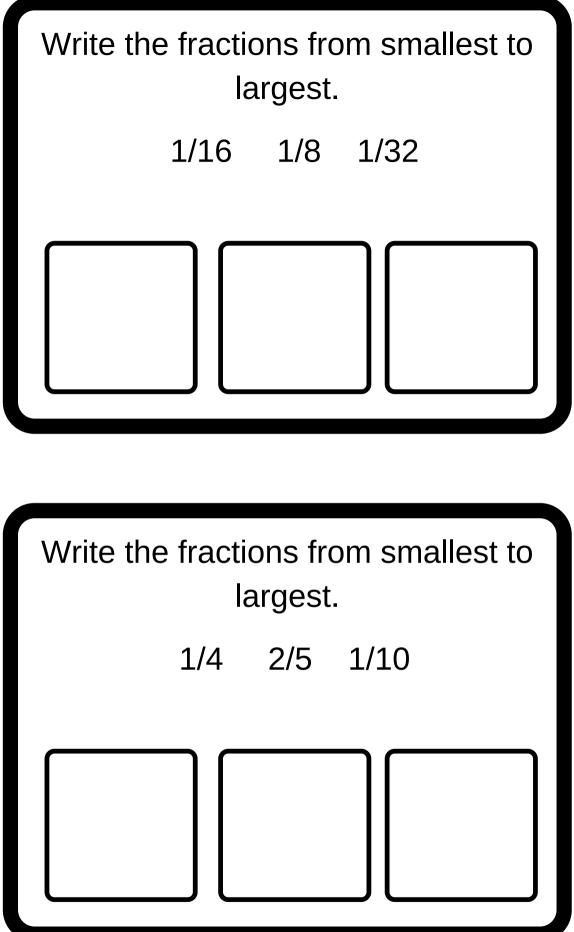
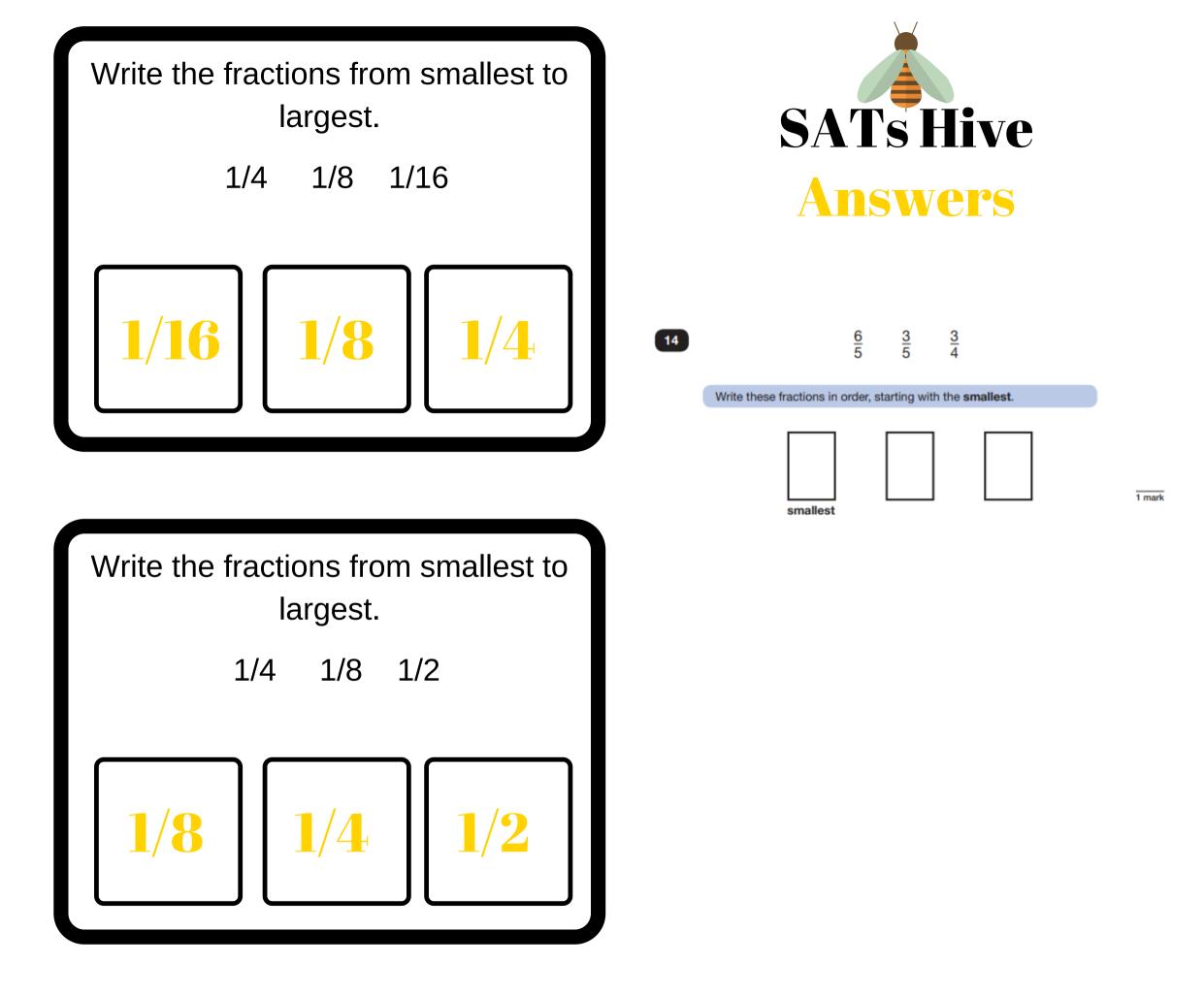Circle the improper fraction that is equivalent to 2 1/4

7/4   **9/4**   5/4   11/4   13/4

13 Circle the improper fraction that is equivalent to $6\frac{7}{8}$

$\frac{67}{8}$ $\frac{48}{8}$ $\frac{62}{8}$ $\frac{55}{8}$ $\frac{76}{8}$ 1 mark

Circle the improper fraction that is equivalent to 1 1/5.

6/5   8/5   7/5   12/5   10/5

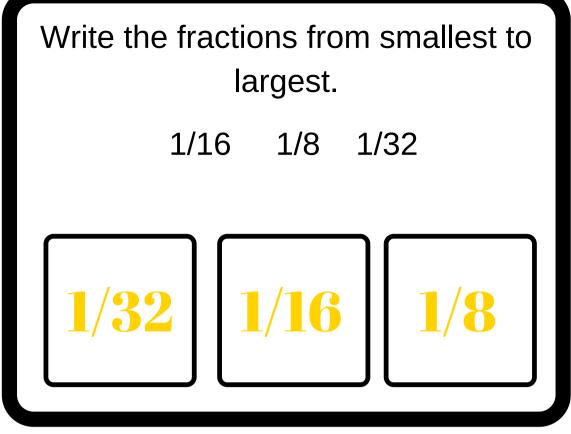Circle the improper fraction that is equivalent to 2 1/5.

6/5   8/5   7/5   **11/5**   10/5

SATs Hive

Write the fractions from smallest to largest.

1/4   1/8   1/16

Write the fractions from smallest to largest.

1/16   1/8   1/32

14

$$\frac{6}{5} \qquad \frac{3}{5} \qquad \frac{3}{4}$$

Write these fractions in order, starting with the **smallest**.

smallest

1 mark

Write the fractions from smallest to largest.

1/4   1/8   1/2

Write the fractions from smallest to largest.

1/4   2/5   1/10

SATs Hive
Answers

Write the fractions from smallest to largest.

1/4   1/8   1/16

1/16	1/8	1/4

Write the fractions from smallest to largest.

1/16   1/8   1/32

1/32	1/16	1/8

14

$$\frac{6}{5} \qquad \frac{3}{5} \qquad \frac{3}{4}$$

Write these fractions in order, starting with the **smallest**.

smallest

1 mark

Write the fractions from smallest to largest.

1/4   1/8   1/2

1/8	1/4	1/2

Write the fractions from smallest to largest.

1/4   2/5   1/10

1/10	1/4	2/5

![SATs Hive logo]

A box contains shelves of strawberries.
There are 10 strawberries on each shelf.
There are 3 shelves.

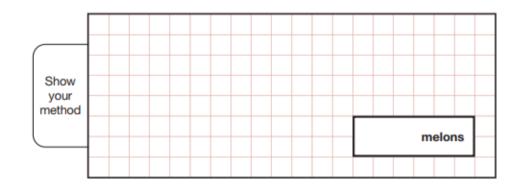A shop sells 8 boxes.
How many strawberries has it sold?

A box contains shelves of strawberries.
There are 10 strawberries on each shelf.
There are 5 shelves.

A shop sells 20 boxes.
How many strawberries has it sold?

15 A box contains trays of melons.

There are 15 melons in a tray.

There are 3 trays in a box.

A supermarket sells **40** boxes of melons.

How many melons does the supermarket sell?

Show your method

melons

2 marks

A box contains shelves of strawberries.
There are 15 strawberries on each shelf.
There are 3 shelves.

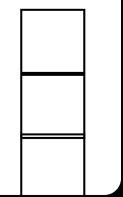A shop sells 10 boxes.
How many strawberries has it sold?

A box contains shelves of strawberries.
There are 15 strawberries on each shelf.
There are 10 shelves.

A shop sells 10 boxes.
How many strawberries has it sold?

SATs Hive

Answers

A box contains shelves of strawberries.
There are 10 strawberries on each shelf.
There are 3 shelves.
240
A shop sells 8 boxes.
How many strawberries has it sold?

A box contains shelves of strawberries.
There are 10 strawberries on each shelf.
There are 5 shelves.
1000
A shop sells 20 boxes.
How many strawberries has it sold?

A box contains shelves of strawberries.
There are 15 strawberries on each shelf.
There are 3 shelves.
450
A shop sells 10 boxes.
How many strawberries has it sold?

A box contains shelves of strawberries.
There are 15 strawberries on each shelf.
There are 10 shelves.
1500
A shop sells 10 boxes.
How many strawberries has it sold?

15 A box contains trays of melons.
There are 15 melons in a tray.
There are 3 trays in a box.

A supermarket sells **40** boxes of melons.

How many melons does the supermarket sell?

Show your method

melons

2 marks

Lynsey wants to mentally calculate
199 - 98.
She starts at 200.
Tick the methods she could use.

Subtract 100 then add 2
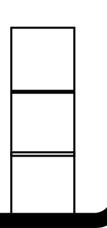Subtract 90 then subtract 8
Add one and subtract 98

Lynsey wants to mentally calculate
1001 - 99
She starts at 200.
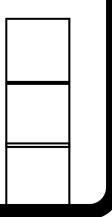Tick the methods she could use.

Subtract 1 from 1000 then add 1 to 99

Subtract 1 and then subtract 100
Subtract 90 and then subtract 9

16 Adam wants to use a mental method to calculate 182 – 97

He starts from 182

Here are some methods that Adam could use.

Tick the methods that are **correct**.

add 3 then subtract 90 ☐

subtract 100 then add 3 ☐

subtract 7 then subtract 90 ☐

subtract 3 then subtract 100 ☐

2 marks

Lynsey wants to mentally calculate
100 - 98.
She starts at 200.
Tick the methods she could use.

Subtract 100 then add 2
Subtract 90 then subtract 8
Add one and subtract 98

Lynsey wants to mentally calculate
189 - 29.
She starts at 200.
Tick the methods she could use.

Subtract 30 then add 1
Subtract 30 then subtract 1
Subtract 20 then subtract 9

Lynsey wants to mentally calculate
199 - 98.
She starts at 200.
Tick the methods she could use.

Subtract 100 then add 2 ✓

Subtract 90 then subtract 8

Add one and subtract 98 ✓

Lynsey wants to mentally calculate
1001 - 99
She starts at 200.
Tick the methods she could use.

Subtract 1 from 1000 then add 1 to 99 ✓

Subtract 1 and then subtract 100

Subtract 90 and then subtract 9 ✓

---

16 Adam wants to use a mental method to calculate 182 – 97

He starts from 182

Here are some methods that Adam could use.

Tick the methods that are **correct**.

add 3 then subtract 90 ☐

subtract 100 then add 3 ☐

subtract 7 then subtract 90 ☐

subtract 3 then subtract 100 ☐

2 marks

Lynsey wants to mentally calculate
100 - 98.
She starts at 200.
Tick the methods she could use.

Subtract 100 then add 2 ✓

Subtract 90 then subtract 8 ✓

Add one and subtract 98

Lynsey wants to mentally calculate
189 - 29.
She starts at 200.
Tick the methods she could use.

Subtract 30 then add 1 ✓

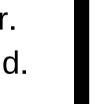Subtract 30 then subtract 1

Subtract 20 then subtract 9 ✓

SATs Hive

There are 24 pupils in a class.
The teacher has 10L of water.
They pour 250ml for each child.

How much water is left over?

There are 32 pupils in a class.
The teacher has 8L of water.
They pour 200ml for each child.

How much water is left over?

17 There are 28 pupils in a class.

The teacher has 8 litres of orange juice.

She pours 225 millilitres of orange juice for every pupil.

How much orange juice is left over?

There are 12 pupils in a class.
The teacher has 10L of water.
They pour 250ml for each child.

How much water is left over?
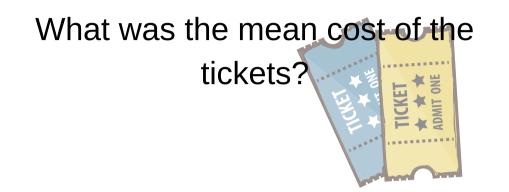
There are 28 pupils in a class.
The teacher has 7L of water.
They pour 220ml for each child.

How much water is left over?

SATs Hive

Answers

There are 24 pupils in a class.
The teacher has 10L of water.
They pour 250ml for each child.

How much water is left over?

4L

There are 32 pupils in a class.
The teacher has 8L of water.
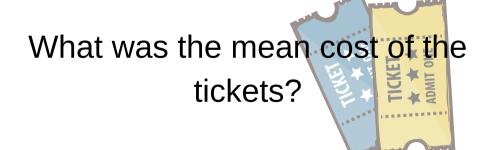They pour 200ml for each child.

How much water is left over?

1.6L

There are 12 pupils in a class.
The teacher has 10L of water.
They pour 250ml for each child.

How much water is left over?

7L

There are 28 pupils in a class.
The teacher has 7L of water.
They pour 220ml for each child.

How much water is left over?

840ml

---

17. There are 28 pupils in a class.

The teacher has 8 litres of orange juice.

She pours 225 millilitres of orange juice for every pupil.

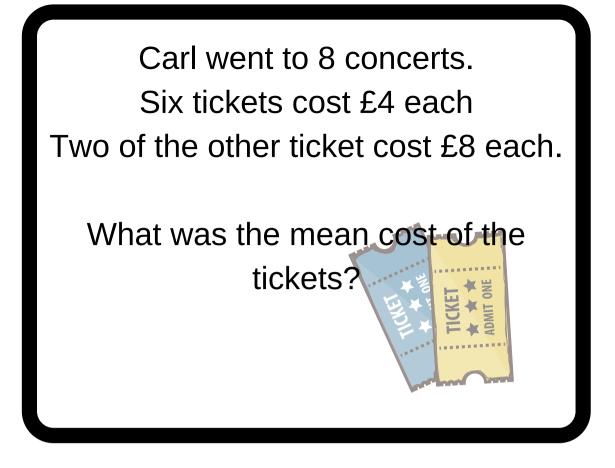How much orange juice is left over?

SATs Hive

Carl went to 6 concerts.
Five tickets cost £6 each
The other ticket cost £12.

What was the mean cost of the tickets?

Carl went to 8 concerts.
Six tickets cost £4 each
Two of the other ticket cost £8 each.

What was the mean cost of the tickets?

18 Last year, Jacob went to four concerts.

Three of his tickets cost £5 each.

The other ticket cost £7
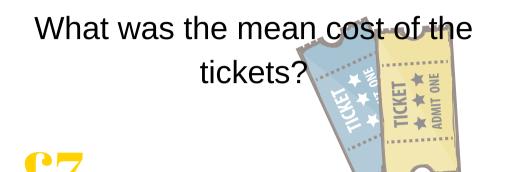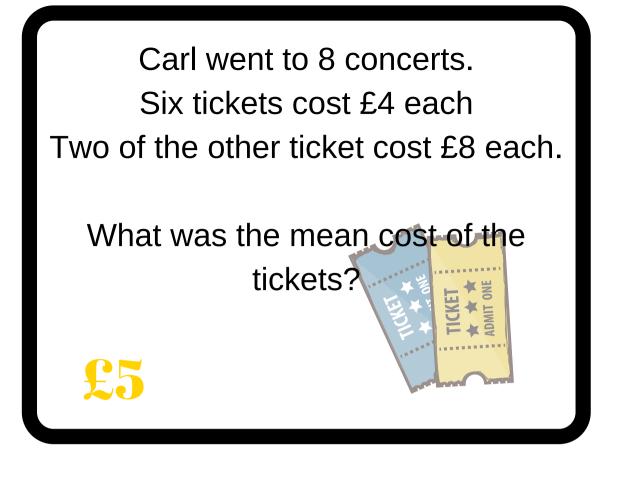
What was the **mean** cost of the tickets?

Carl went to 3 concerts.

Two tickets cost £3 each
The other ticket cost £6.

What was the mean cost of the tickets?

Carl went to 5 concerts.

Two tickets cost £2 each
The other three ticket cost £13 each.

What was the mean cost of the tickets?

Answers

Carl went to 6 concerts.
Five tickets cost £6 each
The other ticket cost £12.

What was the mean cost of the tickets?

£7

Carl went to 8 concerts.
Six tickets cost £4 each
Two of the other ticket cost £8 each.

What was the mean cost of the tickets?

£5

18 Last year, Jacob went to four concerts.

Three of his tickets cost £5 each.

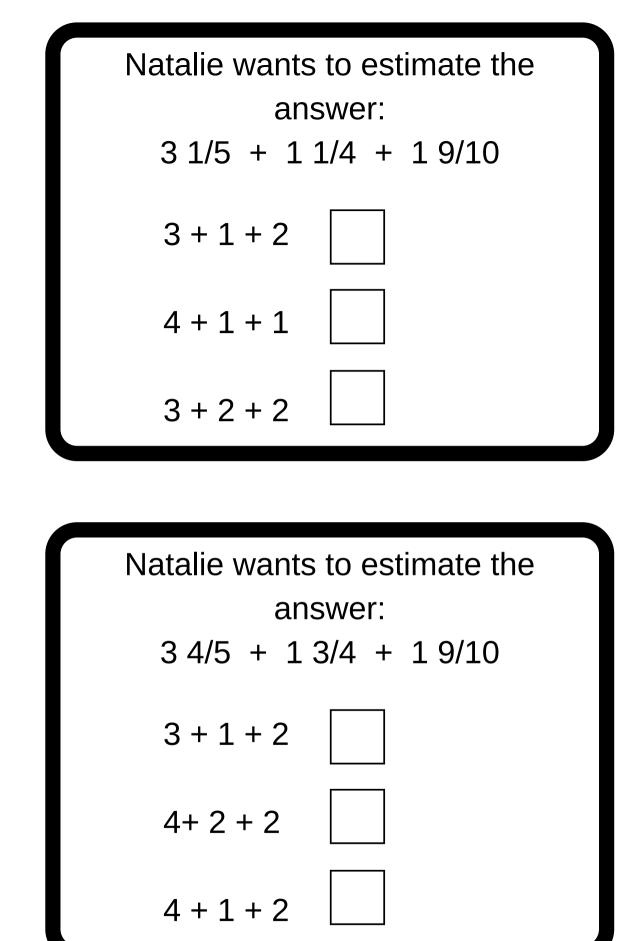The other ticket cost £7

What was the **mean** cost of the tickets?

Carl went to 3 concerts.

Two tickets cost £3 each
The other ticket cost £6.

What was the mean cost of the tickets?

£4

Carl went to 5 concerts.

Two tickets cost £2 each
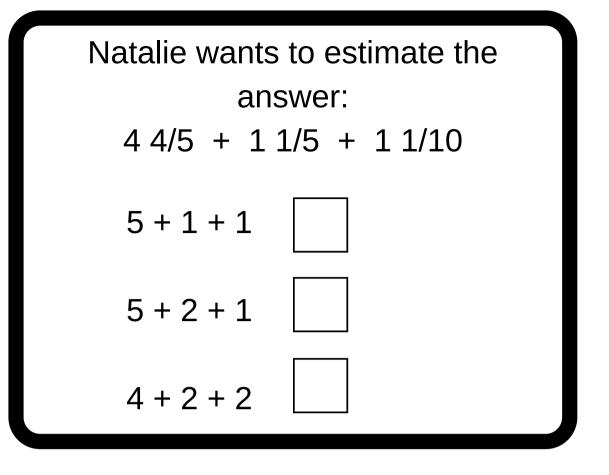The other three ticket cost £13 each.
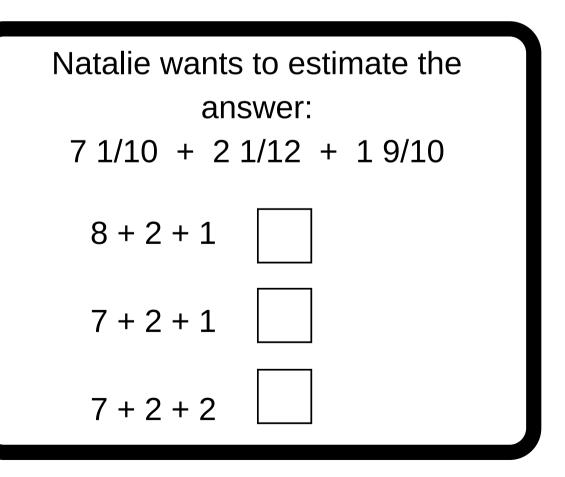
What was the mean cost of the tickets?

£6

SATs Hive

Natalie wants to estimate the answer:

3 1/5 + 1 1/4 + 1 9/10

3 + 1 + 2 ☐

4 + 1 + 1 ☐

3 + 2 + 2 ☐

Natalie wants to estimate the answer:

4 4/5 + 1 1/5 + 1 1/10

5 + 1 + 1 ☐

5 + 2 + 1 ☐

4 + 2 + 2 ☐

19 Layla wants to estimate the answer to this calculation.

$$3\frac{9}{10} - 2\frac{1}{8} + 1\frac{4}{5}$$

Tick the calculation below that is the best estimate.

Tick **one**.

3 – 2 + 2 ☐

4 – 2 + 1 ☐

4 – 2 + 2 ☐

3 – 2 + 1 ☐

Natalie wants to estimate the answer:

3 4/5 + 1 3/4 + 1 9/10

3 + 1 + 2 ☐

4+ 2 + 2 ☐

4 + 1 + 2 ☐

Natalie wants to estimate the answer:

7 1/10 + 2 1/12 + 1 9/10

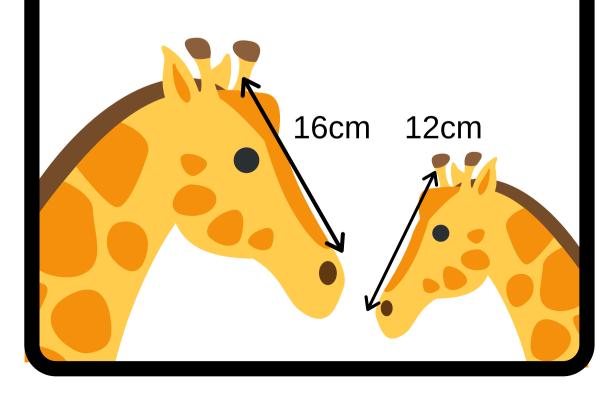8 + 2 + 1 ☐

7 + 2 + 1 ☐

7 + 2 + 2 ☐

The height of a giraffe can be estimated by:

Measuring the distance from horn to nose.

Multiplying the result by 12.

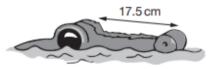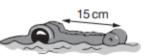What is the estimated difference in heights between these giraffes?

16cm   12cm

SATs Hive

20 The length of an alligator can be estimated by:

- measuring the distance from its eyes to its nose
- then multiplying that distance by 12

What is the **difference** in the estimated lengths of these two alligators?
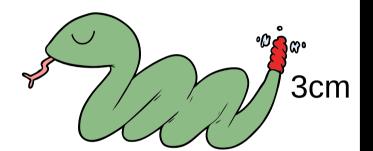
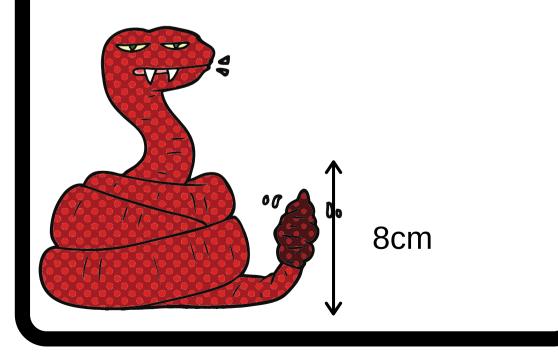17.5 cm   15 cm

Not to scale

The length of s snake's rattle can be estimated by:

Measuring the length of the rattle.

Multiplying the result by 24.

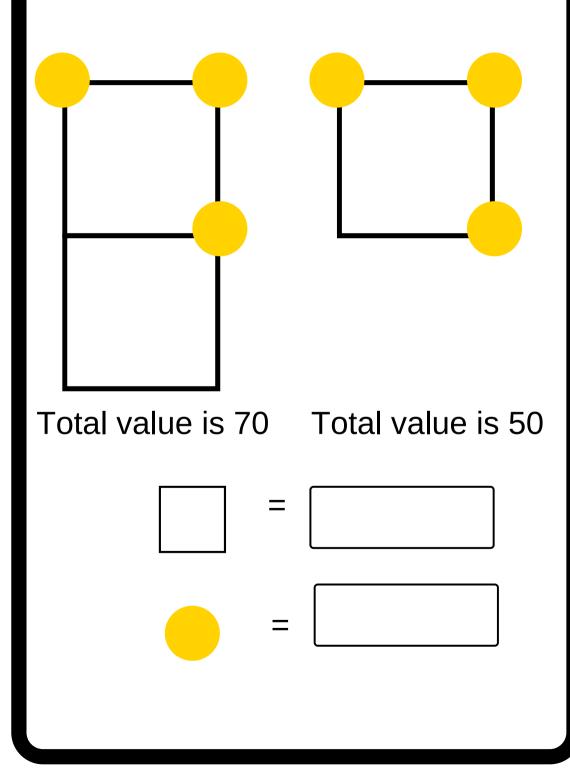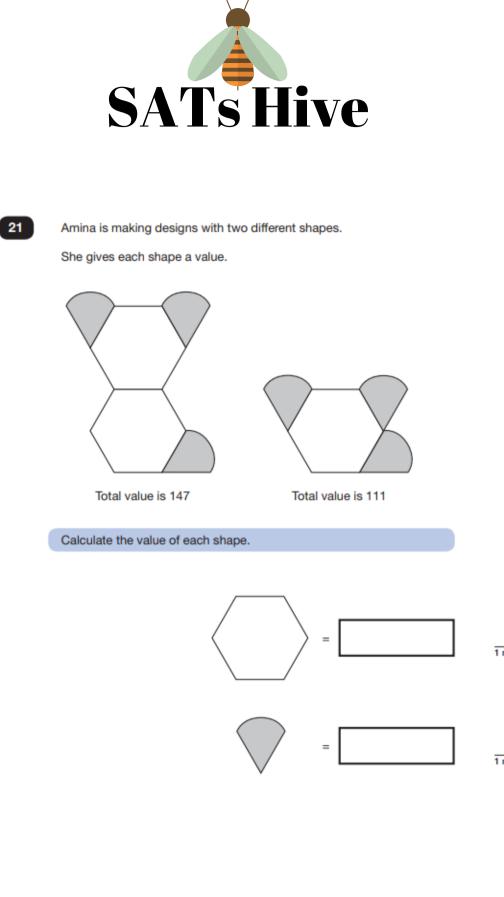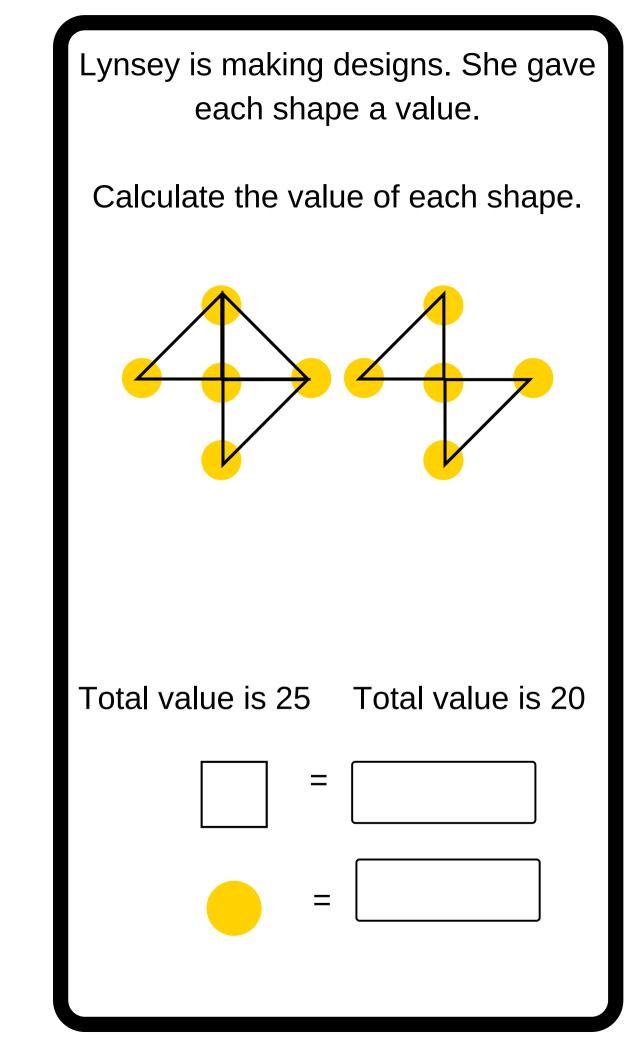What is the estimated difference in lengths between the snakes?

3cm

8cm

Left Panel

Lynsey is making designs. She gave each shape a value.

Calculate the value of each shape.

Total value is 70   Total value is 50

☐ = _____

🟡 = _____

Center Panel

21 Amina is making designs with two different shapes.

She gives each shape a value.

Total value is 147   Total value is 111

Calculate the value of each shape.

⬡ = _____

1 mark

◗ = _____

1 mark

Right Panel

Lynsey is making designs. She gave each shape a value.

Calculate the value of each shape.

Total value is 25   Total value is 20

☐ = _____

🟡 = _____

Lynsey is making designs. She gave each shape a value.

Calculate the value of each shape.

Total value is 70   Total value is 50

□ = **20**

● = **10**

---

21 Amina is making designs with two different shapes.

She gives each shape a value.

Total value is 147   Total value is 111

Calculate the value of each shape.

⬡ = [____]   1 mark

◗ = [____]   1 mark
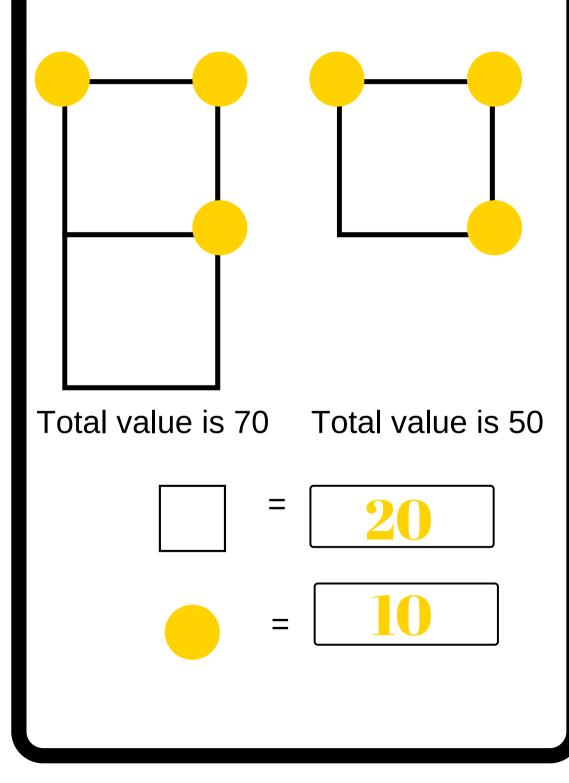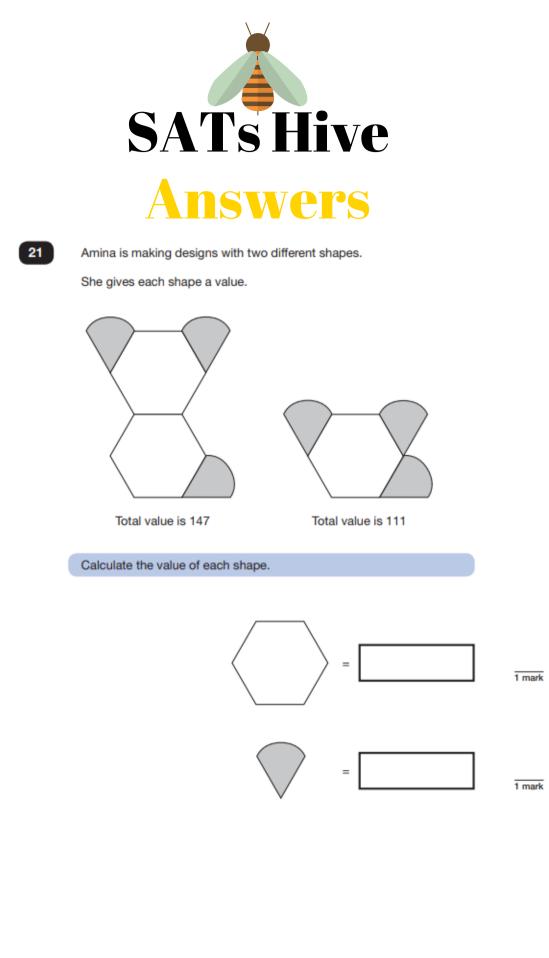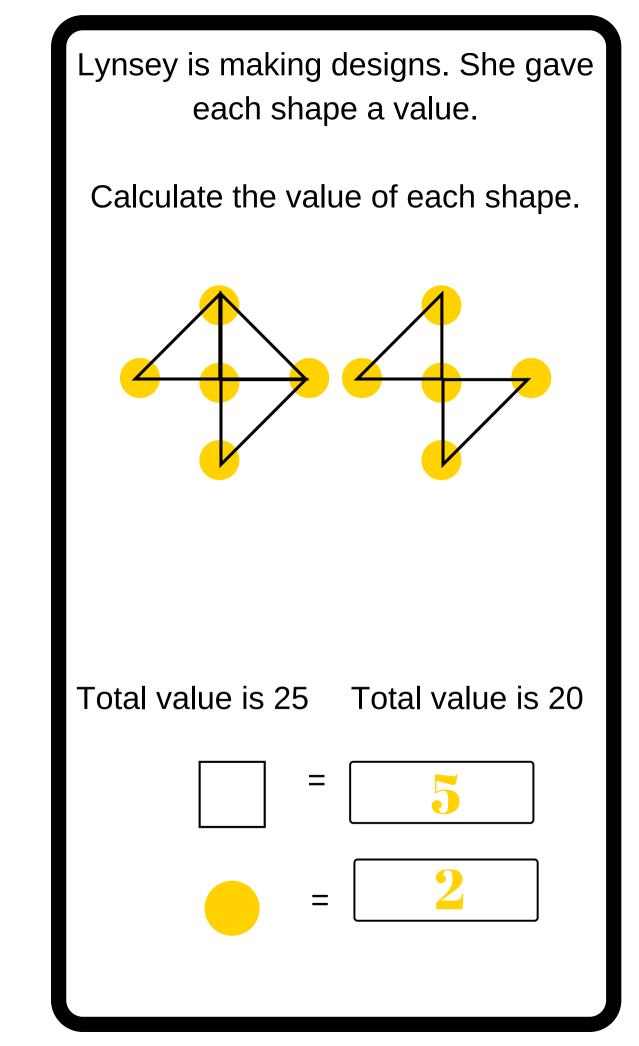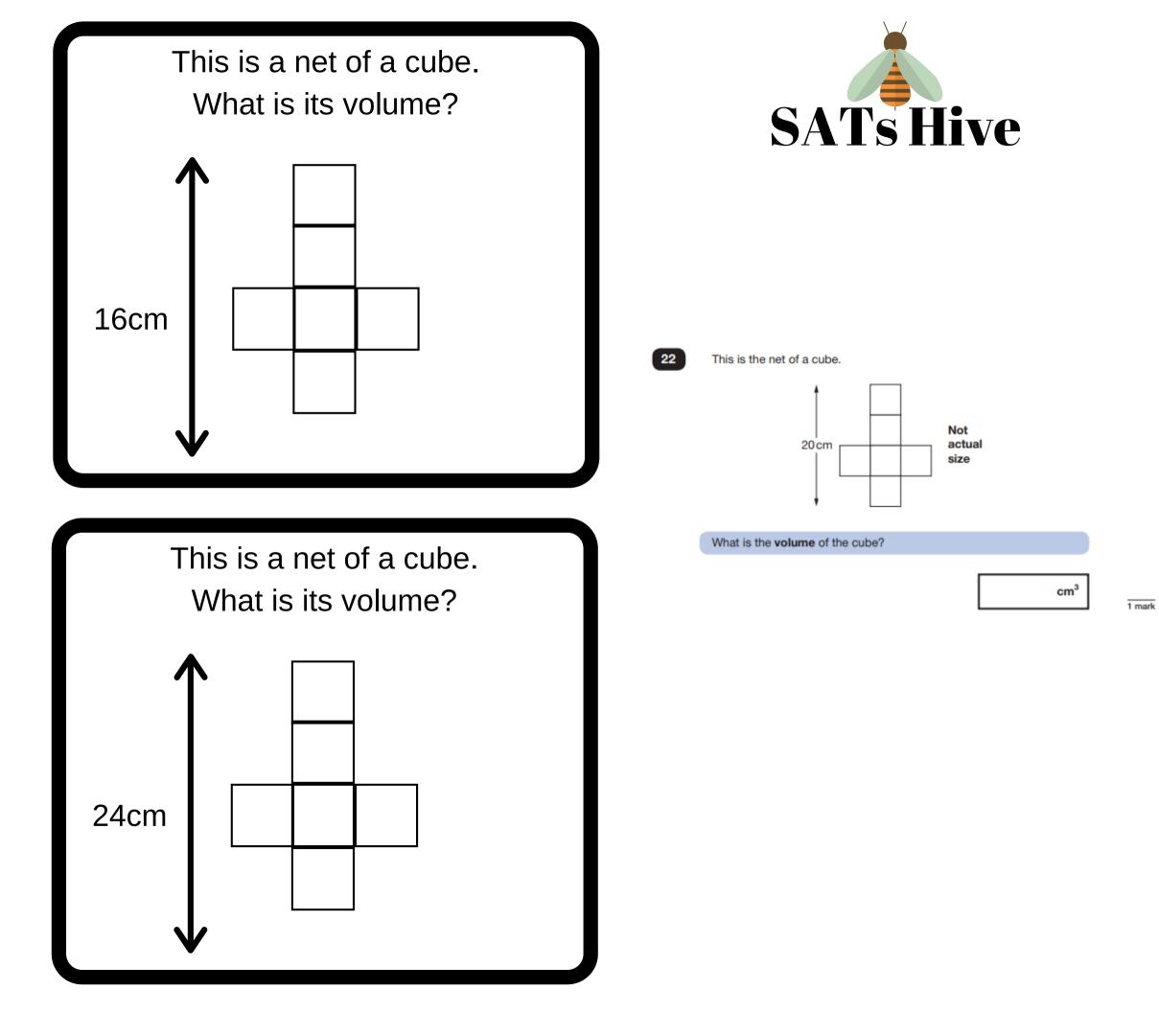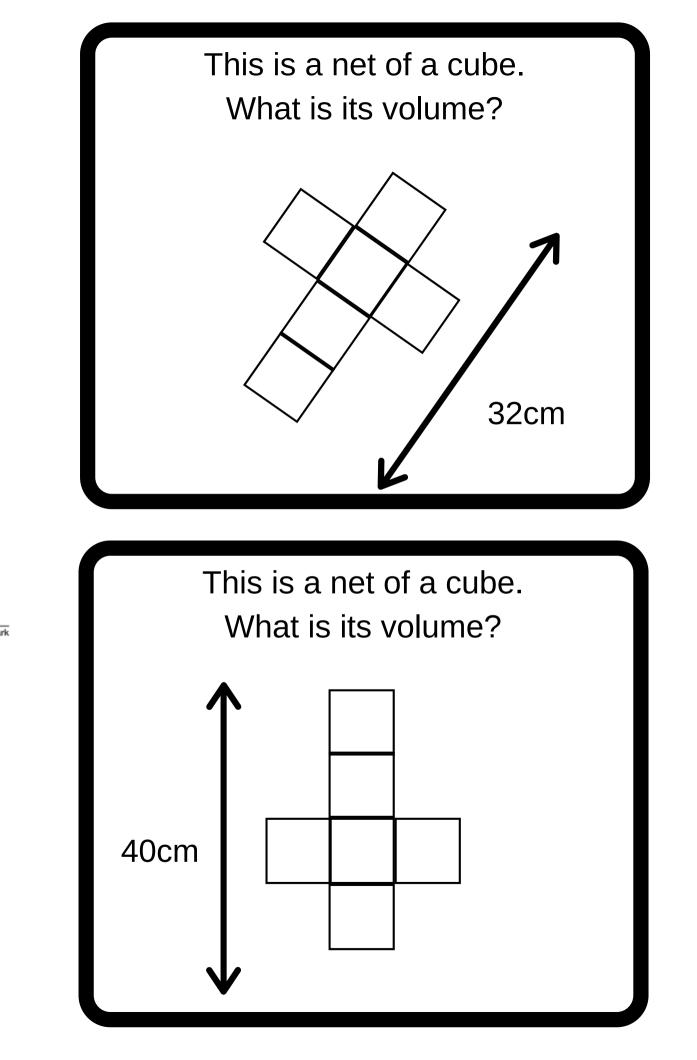

Lynsey is making designs. She gave each shape a value.
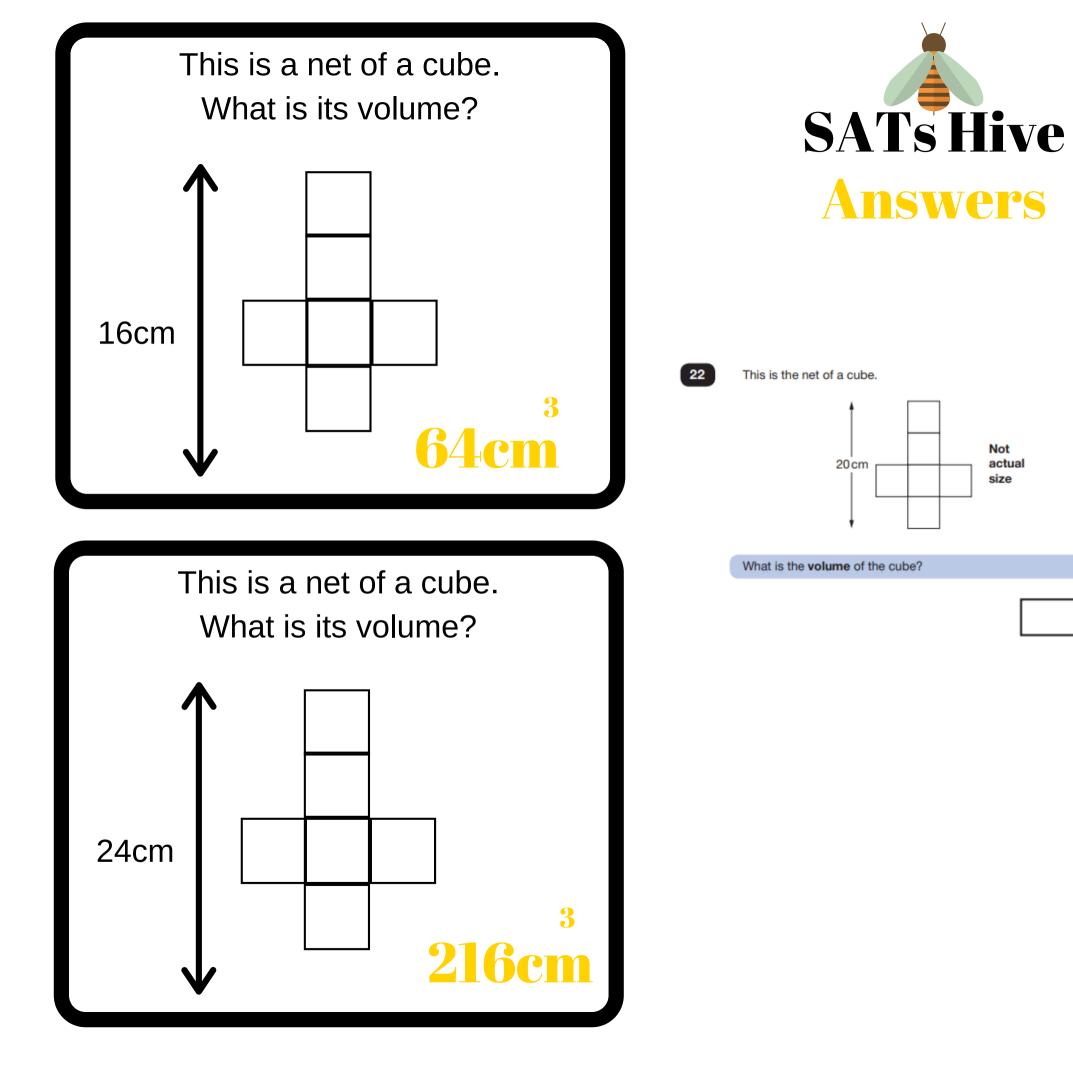
Calculate the value of each shape.

Total value is 25   Total value is 20

□ = **5**

● = **2**

SATs Hive

This is a net of a cube.
What is its volume?

16cm

This is a net of a cube.
What is its volume?

32cm

22 This is the net of a cube.

20 cm

Not actual size

What is the **volume** of the cube?

cm³

1 mark

This is a net of a cube.
What is its volume?

24cm

This is a net of a cube.
What is its volume?

40cm

SATs Hive
Answers

This is a net of a cube. What is its volume?

16cm

64cm³

This is a net of a cube. What is its volume?

24cm

216cm³

---

22 This is the net of a cube.

20cm

Not actual size

What is the **volume** of the cube?

cm³

1 mark

This is a net of a cube. What is its volume?

32cm

512cm³

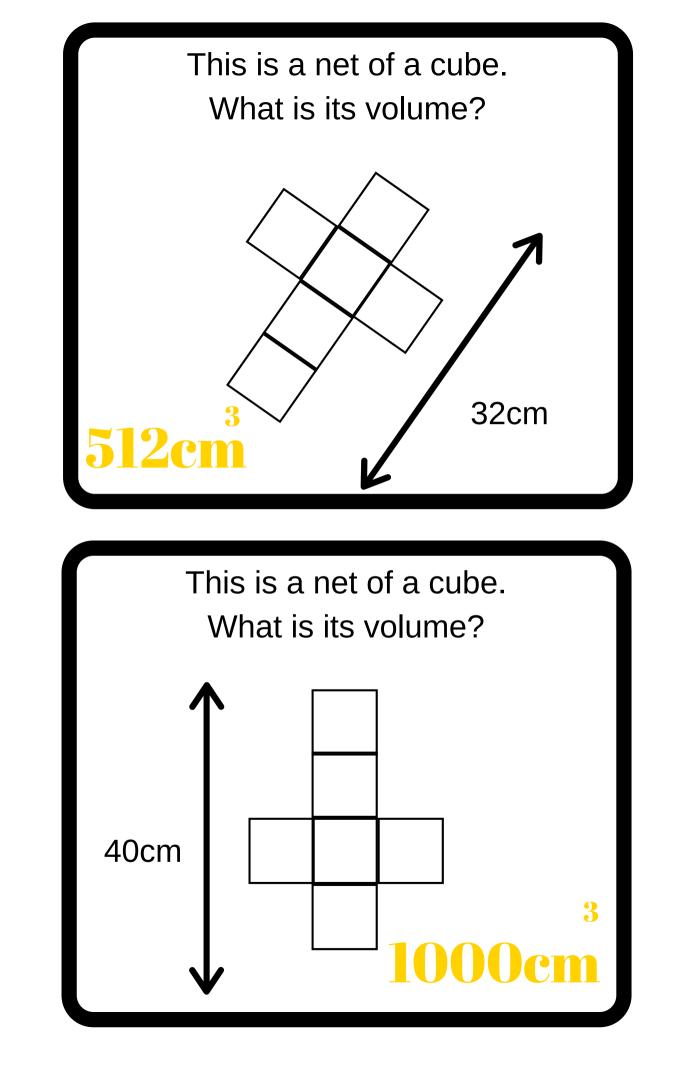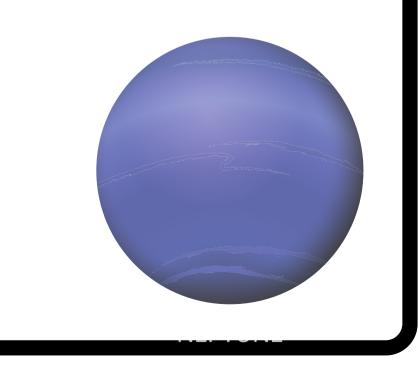**This is a net of a cube. What is its volume?**
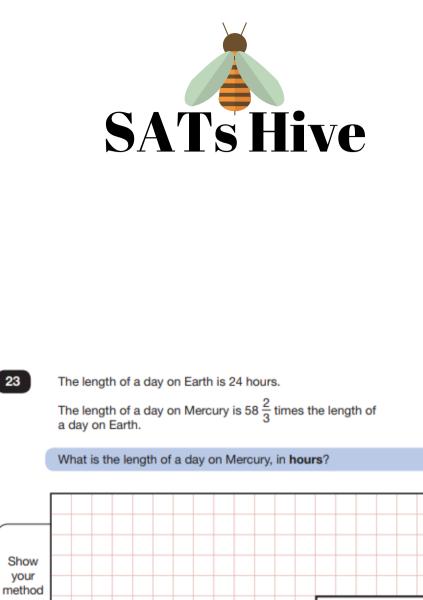
40cm

1000cm³

The length of a day on Earth is 24 hours.

The length of a day on Neptune is 2/3 of that on Earth.

What is the length of a day on Neptune, in hours?

23 The length of a day on Earth is 24 hours.

The length of a day on Mercury is $58 \frac{2}{3}$ times the length of a day on Earth.

What is the length of a day on Mercury, in **hours**?

Show your method

hours

2 marks

The length of a day on Earth is 24 hours.

The length of a day on Pluto is 6 1/3 of that on Earth

What is the length of a day on Pluto, in hours?

The length of a day on Earth is 24 hours.

The length of a day on Neptune is 2/3 of that on Earth.

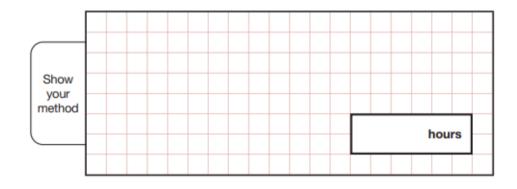What is the length of a day on Neptune, in hours?

16 hours

23 The length of a day on Earth is 24 hours.

The length of a day on Mercury is $58 \frac{2}{3}$ times the length of a day on Earth.

What is the length of a day on Mercury, in **hours**?

Show your method

hours

2 marks

The length of a day on Earth is 24 hours.

The length of a day on Pluto is 6 1/3 of that on Earth

What is the length of a day on Pluto, in hours?

152hours