Sparx Maths

Transition Workbook

Year 6 to Year 7

sparxmaths.com

In this booklet, there are a range of questions from key topics that you will have seen in year 6 and will be helpful for the start of year 7.

Each topic has three sections:
- **Introduce** questions are warm-up questions to practise the basics.
- **Strengthen** questions build your knowledge in key concepts.
- **Deepen** questions are more challenging reasoning and problem-solving questions.

Use the grid below to keep track of your progress in each topic. Tick the sections you have attempted. If you use Sparx Maths you can find even more questions by searching for the Sparx topic codes in Independent Learning.

	I	S	D	Sparx topic codes	Teacher comment
Place value	○	○	○	M704 M522	
Negative numbers	○	○	○	M527	
Rounding	○	○	○	M111 M431	
Adding	○	○	○	M928 M429	
Subtracting	○	○	○	M347 M152	
Multiplying	○	○	○	M113 M187	
Dividing	○	○	○	M462 M354 M873	
Fractions 1	○	○	○	M158 M939	
Fractions 2	○	○	○	M410 M671 M335	
Factors and prime numbers	○	○	○	M322 M823	
Area and perimeter	○	○	○	M390 M635	
Ratio relationships	○	○	○	M478	

Sparx Maths

Q1

Which one of these numbers has 4 tens?

543,   534,   435,   4563

Answer:

Q2

Write **four hundred and six** in figures.

Answer:

Q3

Write down these numbers in order of size, starting with the smallest:

3.8,   3.6,   3.9,   3.5,   3.4

Answer:

Q4

In which **two** of these numbers does the digit 7 have a value of 0.7?

57.2   23.71   64.17   79.24   17.56   14.78

Answer: and

Q1 Which of these numbers shows **five thousand and eight**?

58   500,008   508

5008   50,008

Answer: [   ]

Q2 Arrange these numbers in ascending order (from smallest to largest):

4.46,   9,   8.8,   1.5,   6.06,   4.21

Answer: [   ]

Q3 Which of these numbers is closest to 1?

0.9404   0.907   0.94

0.9005   0.9306   0.9408

Answer: [   ]

Q4 Arrange the number cards in the place value grid to make the **largest** possible number.

3 5

9

Ones	Tenths $\frac{1}{10}$	Hundreths $\frac{1}{100}$
1		

Answer: [   ] . [   ] [   ]

Sparx Maths

Q1   Work out the number that should go in the box to complete the sum.

$$8000 + \boxed{} + 5 = 8065$$

Q2   Write down the number **two million and thirty** in figures.

Answer:

Q3   Using these cards, what is the **closest number** to 320 that you can make?
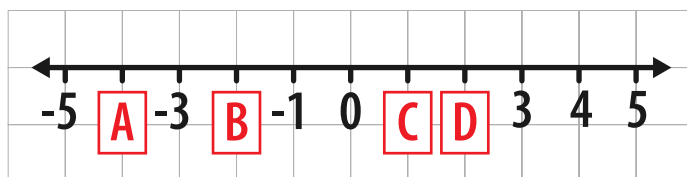You must use **all** the cards and use each card **only** once.

5 **2** **7** **3** **.**

Answer:

Q4   Arrange all three number cards below to create the largest **even** three-digit number.

5 **8** **7**

Answer:

Q1 What numbers should replace A, B, C and D on the number line?

-5 A -3 B -1 0 C D 3 4 5

Answer: A: [ ]   B: [ ]   C: [ ]   D: [ ]
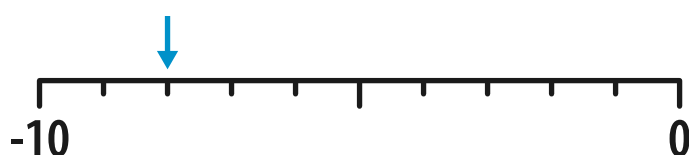
Q2 What number is the arrow pointing to on this scale?

-10   0

Answer: [ ]

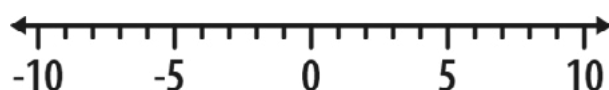**Q3** The weather map shows the temperature recorded one night last winter. Which city had the **lowest** temperature?

Edinburgh 3°C

-6°C Dublin

York -2°C

-4°C Cardiff

London 4°C

10°C Exeter

Answer: [ ]

Q4 Which is higher,

a)   -4 or 1?

b)   -6 or -2?

-10   -5   0   5   10

Answer:

a) [ ]

b) [ ]

Sparx Maths

Q1 Find the temperature that is 9°C lower than 4°C.

°C

-10 -5 0 5 10

← Lower   Higher →
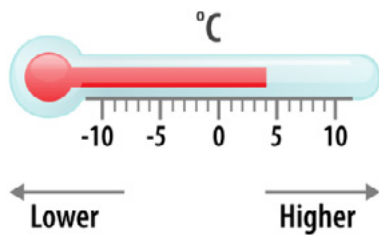
Answer: [   ] °C

Q2 Write these temperatures in order, starting with the coldest:

9°C,   -8°C,   3°C,   -10°C,   0°C,   7°C

Answer: [   ]

Q3 Write these numbers in ascending order (lowest to highest).

77,   -17,   -770,   700,   7,   70

Answer: [   ]

Q4 Write < or > in the empty boxes below to make the statements correct.

3 [ ] -7   -2 [ ] -8   -6 [ ] -4

Q5 Write down these numbers in ascending order (lowest to highest).

2.1,   -4.5,   4.3,   -4.2,   -2.5,   -2

Answer: [   ]

Q1

Put the number cards shown below in the gaps to make the **lowest** number possible. Use each card once.

3	6
5	8

– ☐ ☐ ☐ ☐

Q2

Put the number cards shown below in the gaps to make the lowest number possible. The decimal point should have numbers on both sides, and each card should be used only once.

7	2
3	.	8

– ☐ ☐ ☐ ☐ ☐

Q3

Using each of the cards below only once, what is the closest number to -64.28 that you can make?

3	7
9	.	5

– ☐ ☐ ☐ ☐ ☐

Q4

Ethan is thinking of a negative number that is lower than -4 and higher than -10.
His number is odd and a multiple of 3
What number is he thinking of?

Answer: ☐

Sparx Maths

Q1   What is 63 rounded to the nearest 10?

Answer: [   ]

Q2   What is 720 rounded to the nearest 100?

Answer: [   ]

Q3   Round 350 to the nearest 100

Answer: [   ]

Q4   What is 12.5 rounded to the nearest whole number?

Answer: [   ]

Q5   What is 5.47 rounded to the nearest whole number?

Answer: [   ]

Q1

Rounding to the nearest ten, which two numbers round to 40?

46 33

41 39 48

Answer: [ ] and [ ]

Q2

A pair of jeans costs £21.62
What is the cost of the jeans to the nearest £1?

Answer: £ [ ]

Q3

What is 5279 rounded to the nearest 100?

Answer: [ ]

Q4

When rounded to the nearest 1000, which **two** of these numbers round to 8000?

7496 8572 8312 7528 7216 8763

Answer: [ ] and [ ]

Q5

What is 990 rounded to the nearest 100?

Answer: [ ]

Sparx Maths

Q1
A school raises £1876
The local newspaper writes that they raised £1900
Complete the sentence shown below.

The newspaper has rounded to the nearest

Q2
Tim thinks of a whole number.
Rounded to the nearest 10, his number is 20
List all the possible numbers Tim could be thinking of.

Answer:

Q3
A piece of string is 14 cm long, to the nearest centimetre.
What is the **smallest** possible length of the piece of string?

Answer: cm

Q4
The number of people in a stadium is 47,000 when rounded to the nearest 1000 people.

What is the minimum number of people that could be in the stadium?

Answer:

Q1   Complete the calculation to work out 145 + 352

```
  1 4 5
+ 3 5 2
```

Answer: [ ]

Q2   Complete the calculation to work out 16.3 + 25.2

```
  1 6.3
+ 2 5.2
```

Answer: [ ]

Q3   Use the prices below to work out the total cost of **two** erasers and **one** pencil.

Ruler	30p
Pencil	25p
Blue pen	35p
Green pen	40p
Eraser	20p

Answer: [ ] p

Q4   What is the total cost of a tube of toothpaste and a toothbrush?

£1.85   £3.30

Answer: £ [ ]

Q5   Add together 1750 and 281

Answer: [ ]

Sparx Maths

Q1   Work out 135 + 17 + 133

Answer:

Q2   Work out 18.2 + 34.1 + 13.5

Answer:

Q3   Work out 15.6 + 8.76

Answer:

Q4   Calculate 17468 + 2606

Answer:

Q1   Fill in the gaps below to complete the calculation.

$$
\begin{array}{ccccc}
 & 6 & 2 & \boxed{} \\
+ & 1 & \boxed{} & 9 \\
\hline
\boxed{} & 8 & 2 \\
\hline
 & 1 \\
\end{array}
$$

Q2   In one week, a pilot flew from Paris to Sydney, from Sydney to Mauritius, from Mauritius to New York, then back to Paris from New York.
How many miles did he fly in total?

New York — 3625 miles — Paris
10,532 miles
9273 miles
Mauritius — 5642 miles — Sydney
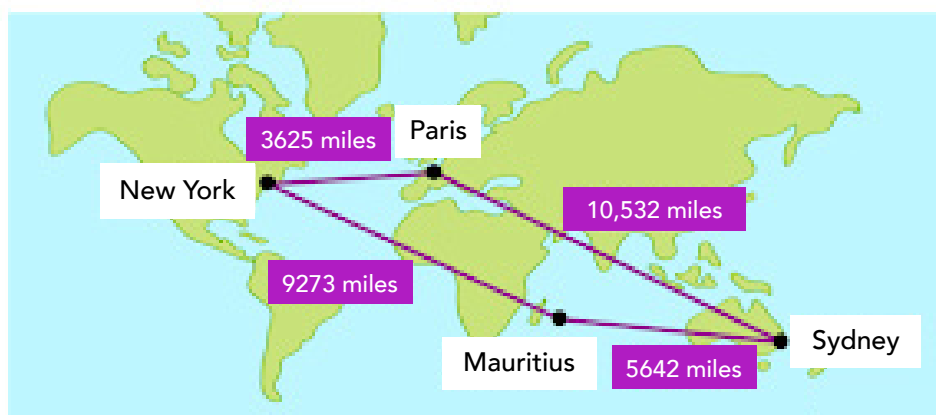
Answer: _____

Q3   Add together the four numbers below.

27.49,   38,   9.78,   6.8

Answer: _____

Q1 Complete the calculation below to work out 847 - 215

Answer:

Q2 Work out 3784 - 313

Answer:

Q3 Work out 646 - 271

Answer:

Q4 Work out 35.6 - 12.5

Answer:

Q5 Work out 56.4 - 13.7

Answer:

Q1　Rob has £154. He spends £82 on a new coat.
How much money does Rob have left?

Answer:　£ _____

Q2　Tyler went to the shop with £8.30. He spent £4.60
How much did he come home with?

Answer:　£ _____

Q3　Subtract 1549 from 1637

Answer: _____

Q4　Subtract 3.5 from 13.3

Answer: _____

Q5　Work out 2361.4 - 84.9

Answer: _____

Q1   Add 238 to 567, then subtract 132
What is the answer?

Answer: ☐

Q2   Grace is 1.45 m tall.
Jackson is 0.2 m shorter than Grace.
How tall is Jackson?

Answer: ☐ m

Q3   Fill in the gap below to complete the calculation.

$$
\begin{array}{r}
7\ \ 5\ \ 8 \\
-\ \ 5\ \ \boxed{}\ \ 3 \\
\hline
1\ \ 8\ \ 5 \\
\hline
\end{array}
$$

Q4   Jack has 14.4 m of rope.
Amy cuts off 2.68 m.
How much rope is Jack left with?

Answer: ☐ m

Q1 Work out 720 x 10

Answer: ⬚

Q2 Work out 56 x 100

Answer: ⬚

Q3 Work out 17 x 3

Answer: ⬚

Q4 Work out 26 x 7

Answer: ⬚

Q5 Multiply 284 by 5

Answer: ⬚

Sparx Maths

Q1 Use the multiplication table below to calculate 22 x 14

Answer:

Q2 Work out 36 x 21

Answer:

Q3 Work out 17 x 503

Answer:

Q4 One table costs £63
How much would 502 tables cost?

Answer: £

Q1   In the multiplication triangle below, the numbers in the circles multiply together to make the number in the rectangle in between.
Fill in the gap.
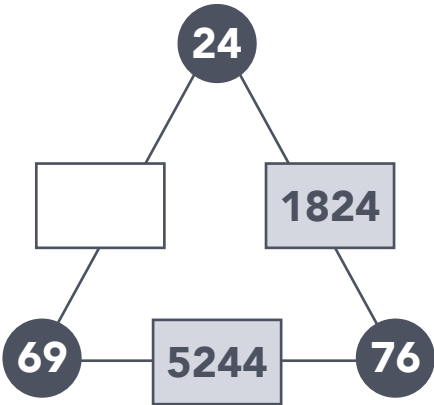
Q2   In the number pyramid below, each number is calculated by multiplying the two numbers below it.
Find the missing numbers in the number pyramid.
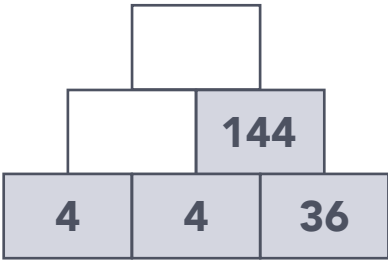
Q3   A plane ticket to Vienna costs £194
This table shows the number of plane tickets to Vienna sold each day last week.
How much money was spent on tickets to Vienna on Tuesday?

Day	Number of tickets sold
Monday	25
Tuesday	37
Wednesday	18
Thursday	46
Friday	61
Saturday	68
Sunday	52

Answer: £ _____

Sparx Maths

Q1 Work out 720 ÷ 10

Answer:

Q2 What is 64.1 ÷ 10?

Answer:

Q3 I have 21 coins and want to arrange them into 3 **equal** groups. How many coins will be in each group?

Answer:

Q4 What is the **remainder** when 23 is divided by 4?

Answer:

Q5 Work out 65 ÷ 5

5) 6 ☐ 5

Answer:

Q6 Divide 170 by 5

Answer:

Q1 Work out the number that should go in the box to complete the calculation.

$$\boxed{} \div 10 = 0.3$$

Q2 Divide 312 by 6

Answer: _____

Q3 Divide 266 by 7

Answer: _____

Q4 Anne has £144 to share between her 6 grandchildren for Christmas.
If she divides the amount equally between them, how much does each grandchild receive?

Answer: £ _____

Q5 Calculate 288 ÷ 12

Answer: _____

Sparx Maths

Q1

A group of 4 friends has a bag of 47 sweets.
They divide the sweets equally between them.

a)   How many sweets does each friend receive?

b)   How many sweets are left over?

Answer:

a) [ ]

b) [ ]

Q2

Bruce needs 26 burgers for a barbecue.
They are sold in packs of 6
How many packs does he need to buy?

Answer: [ ]

Q3

Look at the two calculations below.
Use the top calculation to find the missing number in the calculation below it.

$$300 \div 12 = 25$$

$$300 \div \boxed{} = 50$$

Q4

777 will divide by 37 with no remainder.
What is the remainder when 775 is divided by 37?

Answer: [ ]

Q1   Which shape below is $\frac{2}{5}$ shaded?

A
B
C
D

Answer:

Q2   What fraction of this shape is shaded?

Answer:

Q3   What is **two out of eleven** written as a fraction?

Answer:

Q4   The number line below is divided into 10 equal parts.

Which letter shows the position of $\frac{3}{10}$?

A B C D   E   F   G

0   1

Answer:

Sparx Maths

Q1 Which **two** of the shapes are **half shaded**?

A
B
C
D
E
F
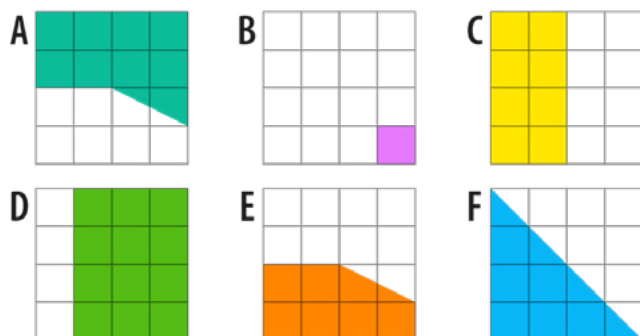
Answer: ⬚ and ⬚

Q2 What fraction of the flag shown below is shaded?
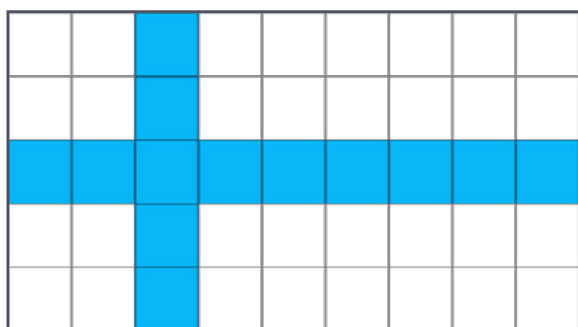
Answer: ⬚

Q3 Write down the **two** shapes that are divided into **quarters**.

A
B
C
D
E
F
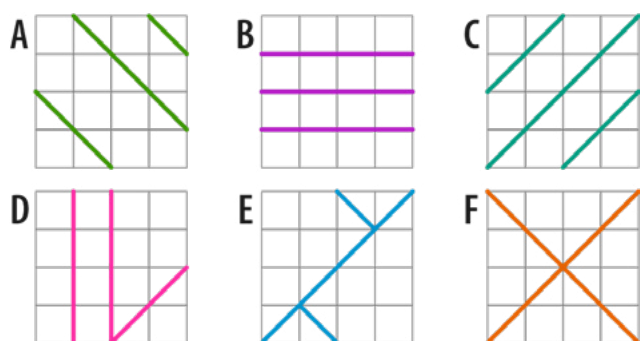
Answer: ⬚ and ⬚

Q1 Write down the **two** shapes are **less** than half shaded.
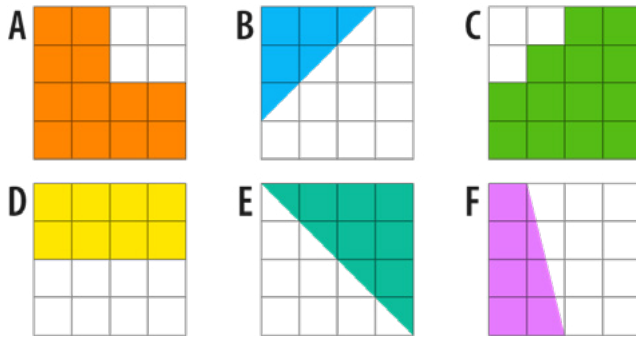
Answer: [ ] and [ ]

Q2 What fraction of £1 is 17p?

Answer: [ ]

Q3 What fraction of an hour is 23 minutes?

Answer: [ ]

Q4 Which **two** of the shapes below are $\frac{3}{4}$ shaded?

Answer: [ ] and [ ]

Sparx Maths
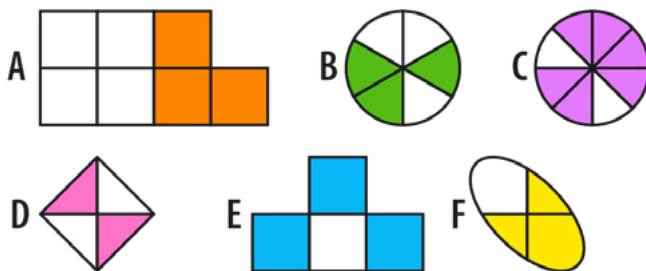
Q1

What is the missing number in these equivalent fractions?

$$\frac{2}{5} = \frac{\boxed{}}{20}$$

Q2

Simplify $\frac{2}{10}$

Answer:

Q3

What fraction of the shape below is shaded?
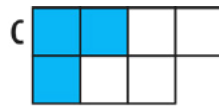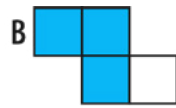Give your answer in its simplest form.
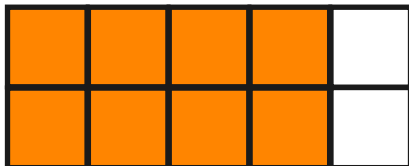
Answer:

Q4

Put these fractions into ascending order (smallest to largest):

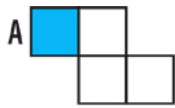$$\frac{7}{10}, \quad \frac{2}{10}, \quad \frac{3}{10}$$

Answer:

Q1

Put these fractions into ascending order (smallest to largest):

$$\frac{3}{4}, \quad \frac{1}{4}, \quad \frac{5}{8}$$

Answer:

Q2

Which **two** shapes are $\frac{3}{4}$ shaded?

A

B

C

D

E

F
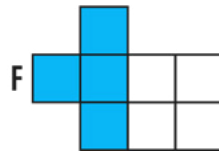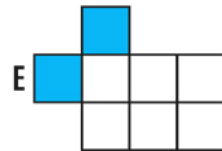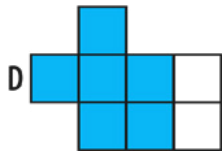
Answer: [ ] and [ ]

Q3

Use two of the cards below to make a fraction that is equivalent to $\frac{16}{20}$

1 2 4 5 10 16

$$\frac{16}{20} = \frac{\square}{\square}$$

Q4

Complete this equality to find the three equivalent fractions.

$$\frac{1}{4} = \frac{3}{\square} = \frac{\square}{20}$$

Q1   Hamza makes a cake and cuts it into 16 equally sized pieces.
He gives 12 pieces to Jack.

What fraction of the cake does Hamza have left?
Give your answer in its **simplest form**.

Answer:

Q2   Jan says that the same fraction of each rectangle below has been shaded.
Is Jan correct?
Write a sentence to explain your answer.
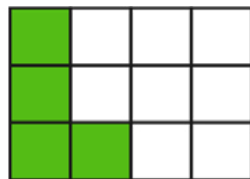
Answer:

Q3   What fraction is exactly halfway between $\frac{4}{5}$ and $\frac{14}{15}$?

Answer:

Q1 Work out all the factors of 10 by completing the factor pairs below.

$$10 = \boxed{} \times \boxed{}$$

$$10 = \boxed{} \times \boxed{}$$

Q2 Work out **all** the factors of 14

Answer: [ ]

Q3 Which two numbers complete the following sentence?

7 is a prime number because it only has two distinct factors, which are [ ] **and** [ ]

Q4 For each number, decide whether it is prime or not prime:

a) 5

b) 1

c) 8

a) [ ]

Answer: b) [ ]

c) [ ]

Q5 Find **all** of the prime numbers from the list:

11,   18,   1,   17,   21,   14

Answer: [ ]

Q6 Write out **all** of the prime numbers between 0 and 10

Answer: [ ]

Sparx Maths

Q1 Which number in the list below is **not** prime?

13,   15,   19,   17   11

Answer: [   ]

Q2 Find **all** the factors of 20

Answer: [   ]

Q3 Which **three** of the numbers below are factors of 100?

2,   9,   10,   25,   35,   200

Answer: [   ] , [   ] and [   ]

Q4 How many factors does 40 have?

Answer: [   ]

Q1 For each number, decide whether it is prime or not prime:

a)   51

b)   87

c)   59

Answer: a) [ ]

b) [ ]

c) [ ]

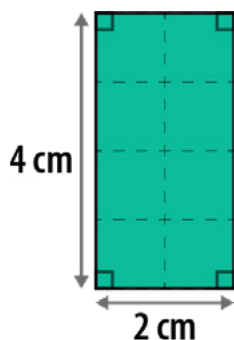**Q2** What is the largest two-digit prime number?

Answer: [ ]

Q3 Find two primes which add to make 28
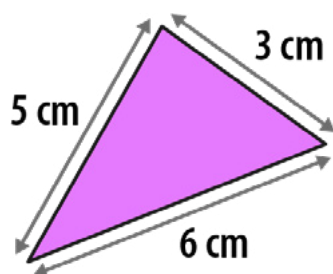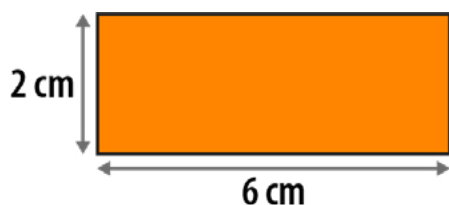
What is the difference of these two primes?

Answer: [ ]

Sparx Maths
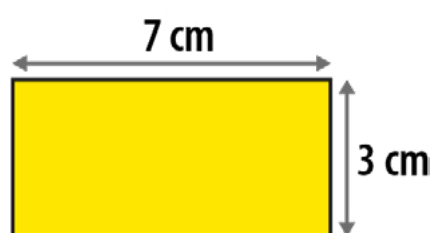
Q1   What is the **area** of this rectangle?

4 cm

2 cm

Answer: [   ] cm^2

Q2   What is the **perimeter** of this triangle?

3 cm

5 cm

6 cm

Answer: [   ] cm

Q3   What is the **area** of this rectangle?

2 cm

6 cm

Answer: [   ] cm^2

Q4   What is the **perimeter** of this rectangle?

7 cm

3 cm

Answer: [   ] cm

Q1

What is the **area** of this rectangle?

9 cm

7 cm   7 cm

9 cm
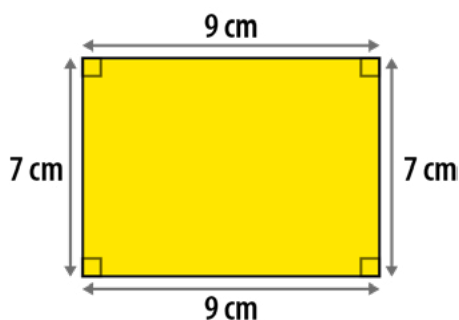
Answer: [   ] cm^2

Q2

Work out the **area** and **perimeter** of this rectangle.

2 cm

6 cm
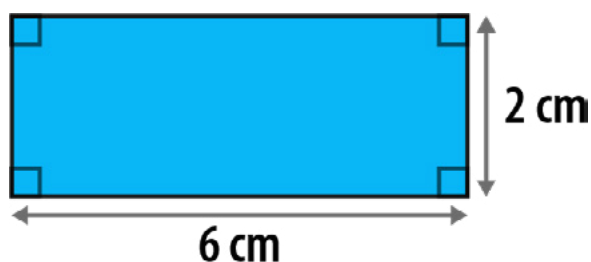
Area: [   ] cm^2

Perimeter: [   ] cm

Q3

What is the **area** of this square?

3 cm
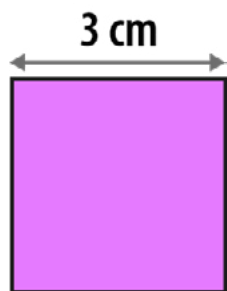
Answer: [   ] cm^2

Q4

Calculate the **perimeter** of this regular pentagon.

4 cm

Answer: [   ] cm

Sparx Maths
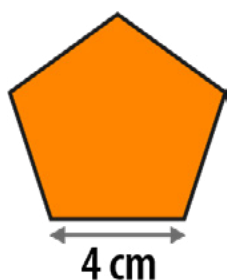
Q1 Work out the **perimeter** of this shape.

2 cm

4 cm

5 cm

3 cm

2 cm
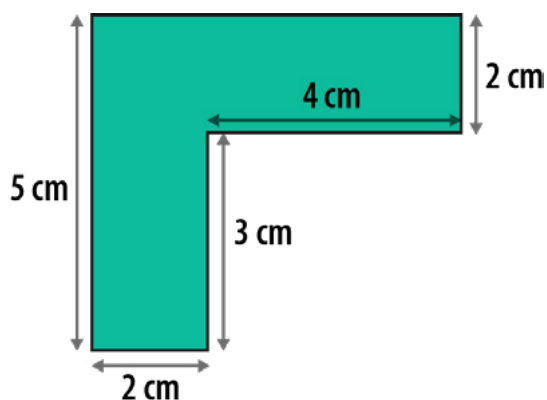
Answer: [   ] cm

Q2 What is the length of the unknown side in this rectangle?

area = 12 cm²
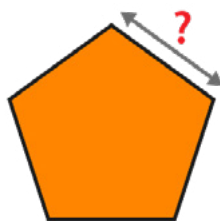
3 cm

?
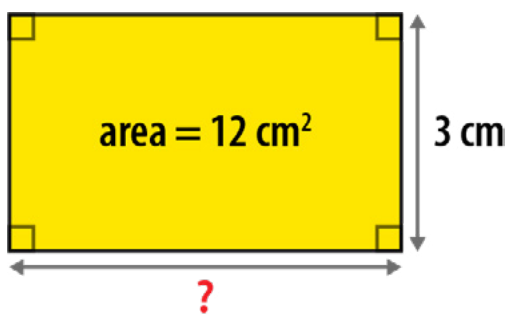
Answer: [   ] cm

Q3 What is the length of one side of this regular pentagon?

?

perimeter = 15 cm

Answer: [   ] cm

Q4 A rectangle has an **area** of 24 cm².

How long could the sides of the rectangle be?

Give three different examples.

Answer: [   ]

[   ]

[   ]

Q1   1 minibus can seat 8 passengers.

How any passengers can be seated on 6 identical minibuses?

Number of minibuses	Number of passengers
🚌	8
🚌🚌🚌🚌🚌🚌	

Q2   A recipe to serve 4 people uses 200g of flour.

How much flour is needed to make the same recipe to serve 8 people?

Answer: ⬚ g

Q3   Asher buys 6 identical sweets that cost 18p in total.

How much does 1 of the sweets cost?

Number of sweets	Cost
🍬🍬🍬🍬🍬🍬	18 p
🍬	p

Q1 Imran is making fairy cakes using the recipe below.
How much flour is needed to make 20 fairy cakes?

Fairy Cakes (makes 10 cakes)

2	eggs
120 g	flour
100 g	sugar
80 g	butter
$\frac{1}{2}$ tsp	vanilla essence

Answer: [   ] g

Q2 Johanna is baking chocolate biscuits.
The recipe she is following uses 150g of sugar and makes 30 biscuits.

If Johanna only has 50g of sugar then how many of these biscuits can she make?

Answer: [   ]

Q3 Indie makes some strawberry muffins following the recipe provided.
If Indie uses 550g of flour, how many grams (g) of strawberries must she use?

Strawberry Muffins

1	egg
110 g	flour
120 g	sugar
60 g	butter
50 g	strawberries

Answer: [   ] g

Q1 Alice buys 10 identical toy boats and spends £80 in total.
How much would 7 toy boats cost?

Answer: £ _____

Q2 Finn is stacking identical cube-shaped boxes.
He stacks 7 boxes to make a tower that is 112cm tall.
He adds 1 more box to the tower.
How tall is the tower now?

Answer: _____ cm

Q3 Mia wants to predict how many times her heart will beat in an hour.
When she is resting, her heart beats 5 times in 6 seconds.

a) Use this information to predict the number of times her heart will beat in 1 minute.

Answer: a) _____

b) Predict the number of times her heart will beat in 1 hour.

Answer: b) _____

Sparx Maths

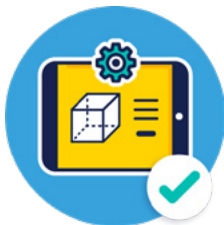1 hour of Sparx Maths a week significantly improves student grades

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