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.

	Introduce	Strengthen	Deepen	Teacher comment
Place value	○	○	○	
Negative numbers	○	○	○	
Rounding	○	○	○	
Adding	○	○	○	
Subtracting	○	○	○	
Multiplying	○	○	○	
Dividing	○	○	○	
Fractions 1	○	○	○	
Fractions 2	○	○	○	
Factors and prime numbers	○	○	○	
Area and perimeter	○	○	○	
Ratio relationships	○	○	○	

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

Answer: ☐ . ☐ ☐

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

8000 + ☐ **+ 5 = 8065**

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

Answer: ☐

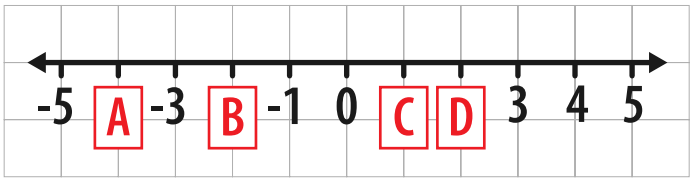
Q3 Using these cards, what is the **closest number** to 320 that you can make?
You must use **all** the cards and use each card only **once**.

Answer: ☐

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

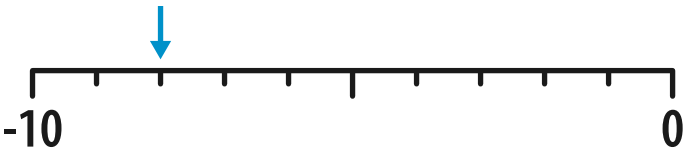
Answer: ☐

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



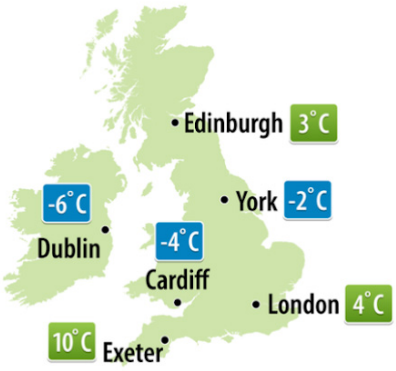
Answer: A: B: C: D:

Q2 What number is the arrow pointing to on this scale?



Answer:

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

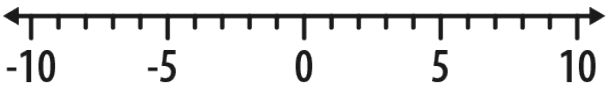


Answer:

Q4 Which is higher,

a) -4 or 1?

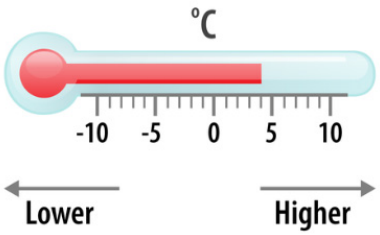
b) -6 or -2?



Answer: a)

b)

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



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.

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.

Q3 Using each of the cards below only once, what is the closest number to -64.28 that you can make?

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:

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?

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?

Answer: _____ and _____

Q5

What is 990 rounded to the nearest 100?

Answer: _____

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:

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:

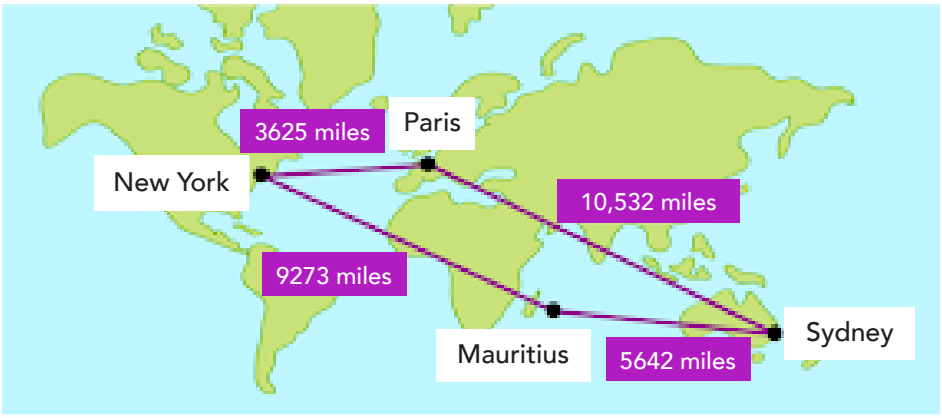
Q4 Calculate 17468 + 2606

Answer:

Q1 Fill in the gaps below to complete the calculation.

$$\begin{array}{r} 6\ \ 2\ \square \\ +\ 1\ \square\ 9 \\ \hline \square\ 8\ 2 \\ \hline 1 \end{array}$$

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?



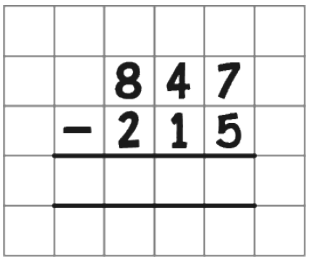
Answer:

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.

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

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:

Q1 Use the multiplication table below to calculate 22 x 14

×	11	12	13	14	15
21	231	252	273	294	315
22	242	264	286	308	330
23	253	276	299	322	345
24	264	288	312	336	360
25	275	300	325	350	375

Answer:

Q2 Work out 36 x 21

Answer:

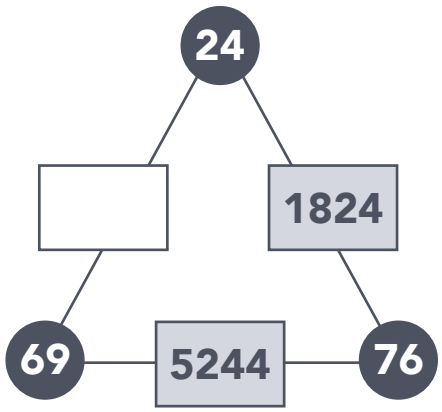
Q3 Work out 17 x 503

Answer:

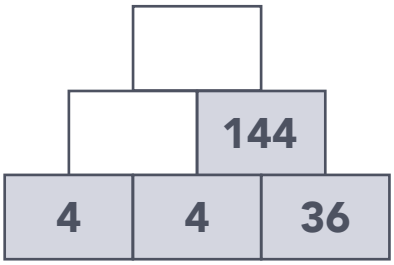
Q4 One table costs £63
How much would 502 tables cost?

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: £

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

Answer:

Q6 Divide 170 by 5

Answer:

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

$\square \div 10 = 0.3$

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:

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 ÷ 12 = 25

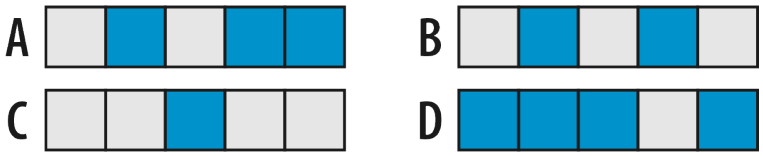
300 ÷ ☐ = 50

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?



Answer:

Q2 What fraction of this shape is shaded?

Answer:

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

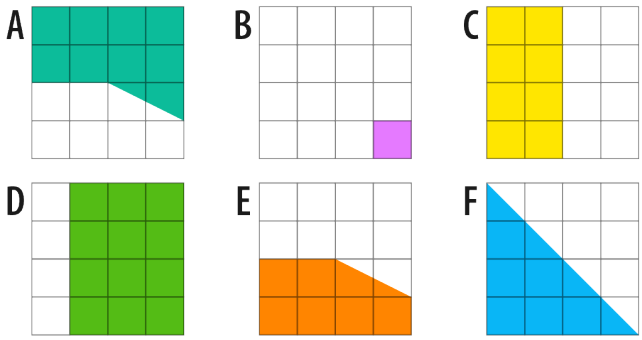
Answer:

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

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

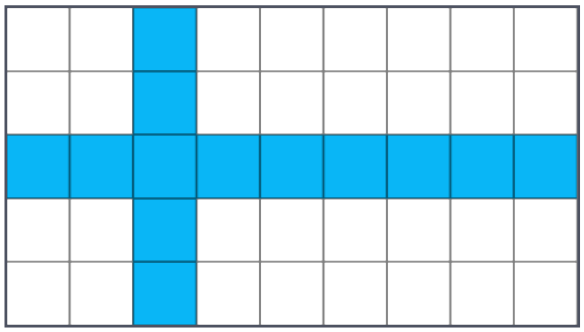
Answer:

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



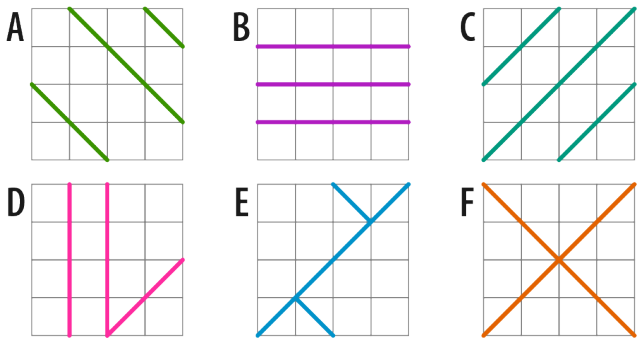
Answer: ☐ and ☐

Q2 What fraction of the flag shown below is shaded?



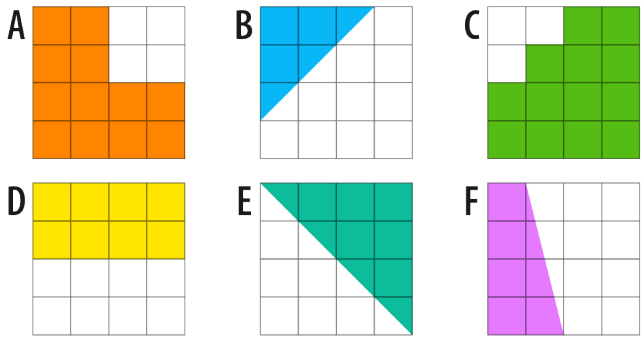
Answer: ☐

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



Answer: ☐ and ☐

Q1 Write down the **two** shapes are **less** than half shaded.



Answer: ☐ and ☐

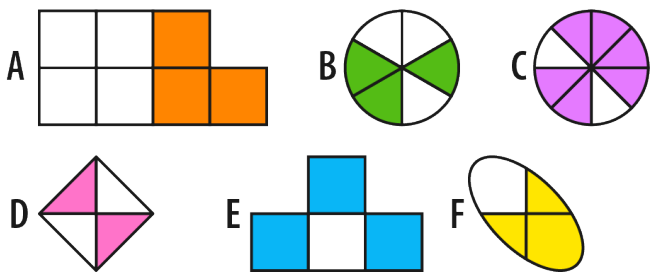
Q2 What fraction of £1 is 17p?

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 ☐

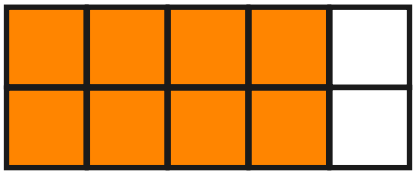
Q1 What is the missing number in these equivalent fractions?

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

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):

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

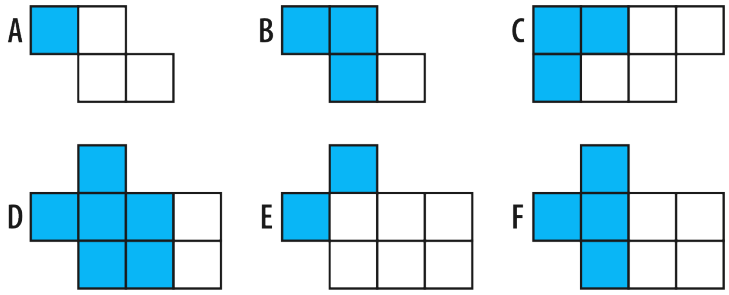
Answer:

Q1 Put these fractions into ascending order (smallest to largest):

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

Answer:

Q2 Which **two** shapes are $\frac{3}{4}$ shaded?



Answer: and

Q3 Use two of the cards below to make a fraction that is equivalent to $\frac{16}{20}$

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

Q4 Complete this equality to find the three equivalent fractions.

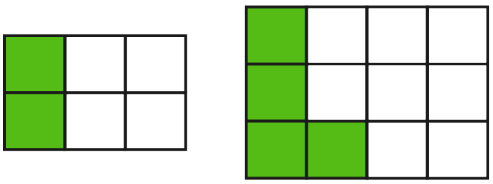
$$\frac{1}{4} = \frac{3}{\square} = \frac{\square}{20}$$

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 = ☐ **x** ☐

10 = ☐ **x** ☐

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

Answer: a) ☐

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: ☐

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?

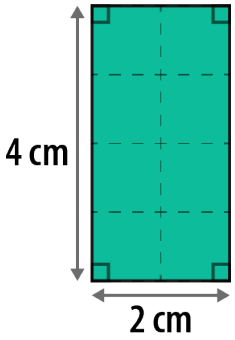
Answer: ☐

Q3 Find two primes which add to make 28

What is the difference of these two primes?

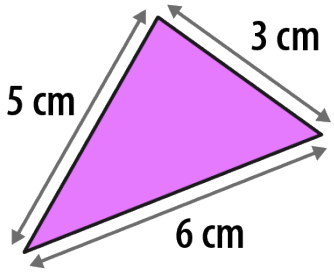
Answer: ☐

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



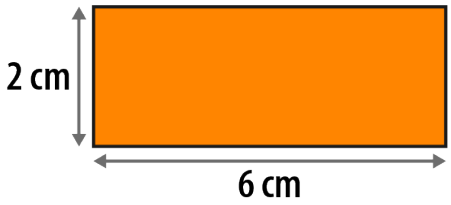
Answer: ____ cm^2

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



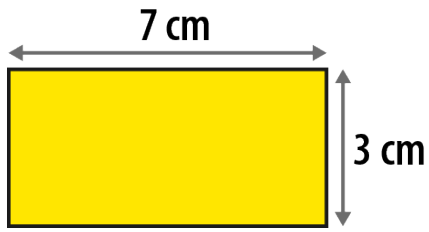
Answer: ____ cm

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



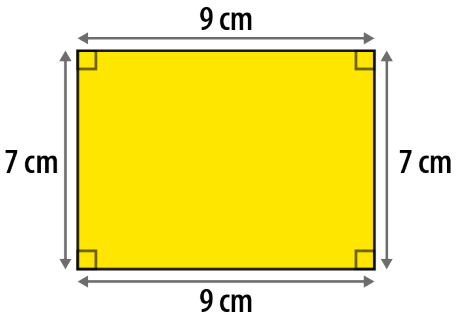
Answer: ____ cm^2

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



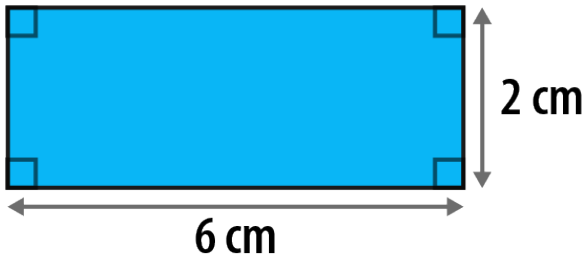
Answer: ____ cm

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



Answer: ____ cm^2

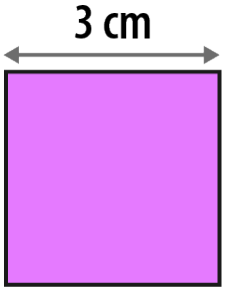
Q2 Work out the **area** and **perimeter** of this rectangle.



Area: ____ cm^2

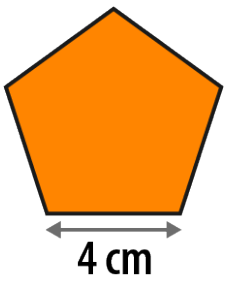
Perimeter: ____ cm

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



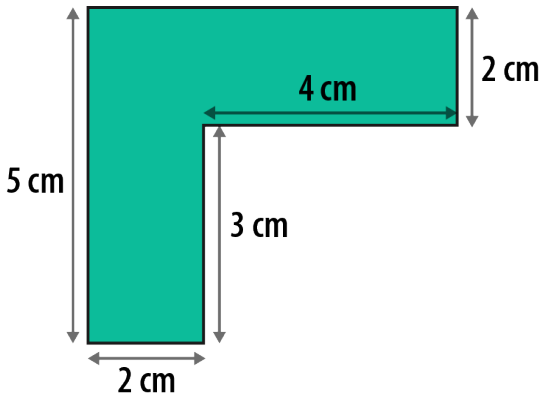
Answer: ____ cm^2

Q4 Calculate the **perimeter** of this regular pentagon.



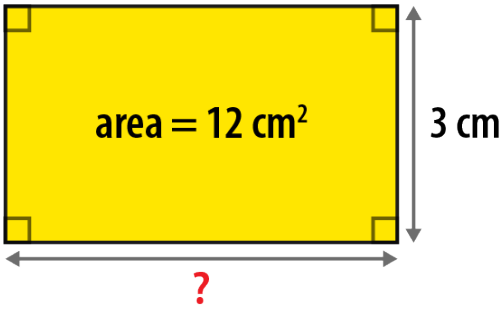
Answer: ____ cm

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



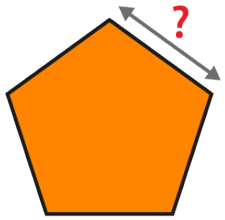
Answer: _____ cm

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



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 cm^2.
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)

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