a

Write 54 as a product of its prime factors.

b

Calculate 7% of 320.

c

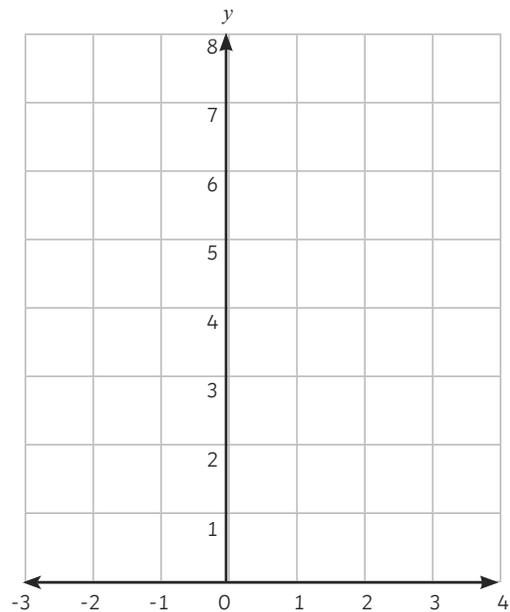Simplify $a^4 \times a^7$

d

i) Complete the table of values for
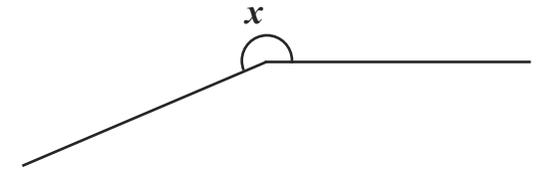
$x + y = 5$

x	-2	-1	0	1	2	3
y		6			3	

ii) Hence draw the graph of $x + y = 5$ for the values $-2 \leq x \leq 3$.

e

Measure the size of the angle marked x:

f

The list shows the ages of 8 children. Find the median age.

9, 7, 11, 13, 10, 15, 13, 17

a

Work out 4×10^2.

b
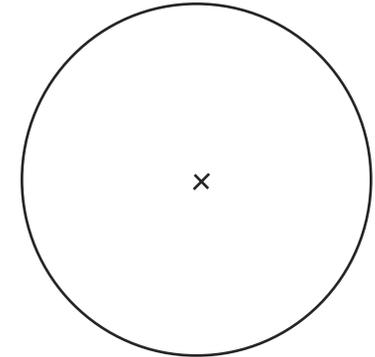
Write $\frac{7}{10}$ as:

i) a decimal;

ii) a percentage.

c

Look at the function machine below.

Work out the input if the output is 21:

? → | x 7 | → 21

d

The first four terms of a sequence are:

3, 7, 11, 15...

Simran says the number 302 is in the sequence. Explain why she is wrong.

e

Draw a chord on the circle.

×

f

The following cards are placed in a box.

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

A card is selected at random. Find the probability that the number on the card is a prime number.

a

Write the following numbers in order of size, starting with the smallest.

4, -2, 7, -1, 0, 5

b

Calculate the value of the letter a in the equation

$3a - 5 = 7$

c

Solve the simultaneous equations:

$2x + y = 7$

$x + y = 4$

d

Reflect the shape in the line $y = 2$.

e

The frequency table shows the favourite colour of 15 children. Write down the modal colour.

Colour	Frequency
Red	3
Blue	4
Green	7
Yellow	1

f
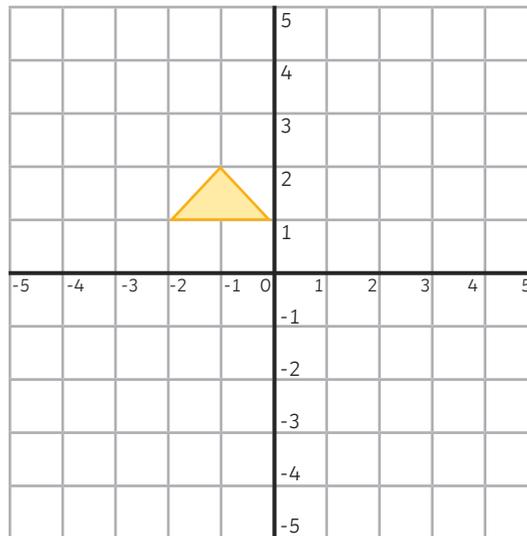
The table shows the probabilities of picking a chocolate at random from a bag.

Fairy Milk	Sneakers	Snars Bar	Kit Kit
0.1	0.35		0.4

Calculate the probability of picking a Snars bar.

a

Work out, without using a calculator:

i) -3 × 4

ii) 10 + -7

iii) -20 ÷ -5

c

A bag contains strawberry and mint flavoured sweets. There are 4 strawberry and 6 mint sweets.

i. **A sweet is chosen at random and replaced. Mark, on the scale, the probability of choosing a strawberry sweet.**

ii. **A sweet is chosen at random. Mark, on the scale, the probability of choosing a lime sweet.**

```
├──────────────┼──────────────┤
0                               1
```

e

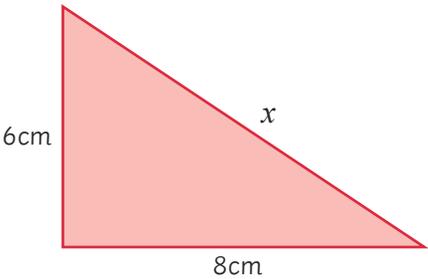A car takes 3 hours to travel 60 miles. Work out its average speed for the journey.

b

Eleanor thinks of a mystery number and subtracts 7. Her answer is 11.

What was her mystery number?

d

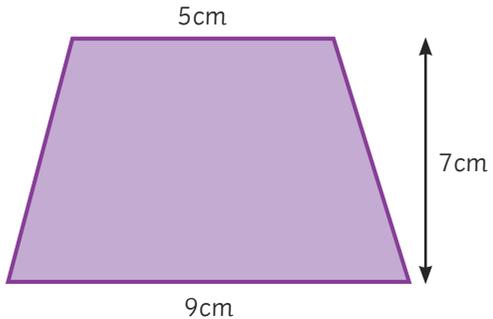**Below is a right-angled triangle. Find the value of the missing length.**

6cm

x

8cm

f

Factorise $10x + 8$

a

Find the area of the trapezium.

5cm

7cm

9cm

c

Simplify $4x + 3x^2 + 5x - x^2$

e

Find 15% of £25.

b

Is the answer to √60 between:

a) 6 and 7

   or,

b) 7 and 8?

d

Find the next two terms of the sequence:

1, 1, 2, 3, 5...

f

Round 735 to 1 significant figure.

a

Solve the simultaneous equations:

$2x + y = 5$

$x + y = 2$

c

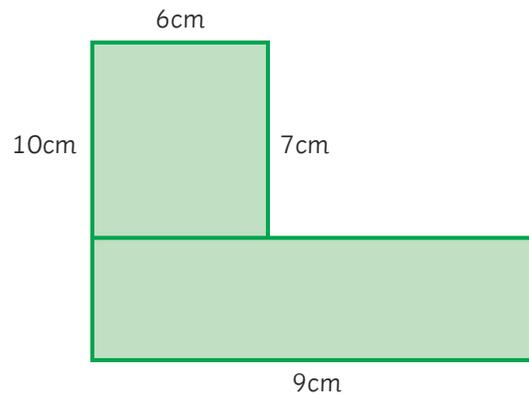Factorise $x^2 + 7x + 10$

e

Simplify $(x^4)^5$

f

The table shows the favourite foods of 15 children. Draw a pie chart to represent the data.

Favourite Food	Frequency
Pizza	6
Curry	5
Chinese	4

b

Find the perimeter of the shape.

6cm

10cm   7cm

9cm

d

There are 10 dogs and 12 cats in a pet shop. Write the ratio of dogs to cats, leaving your answer in its simplest form.

a

Write 54 as a product of its prime factors.

2×3^3

b

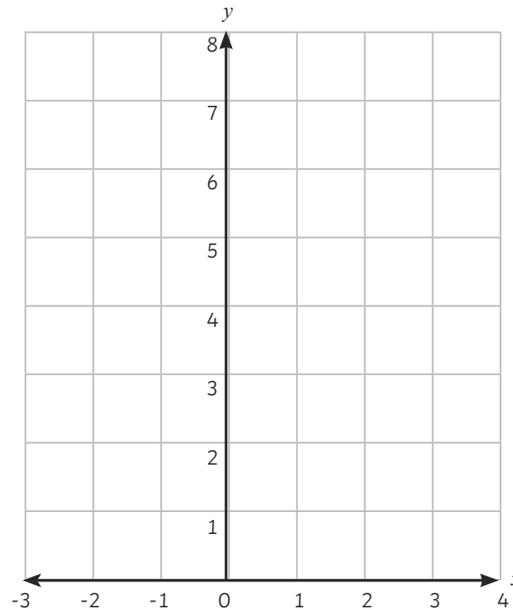Calculate 7% of 320.

22.4

c

Simplify $a^4 \times a^7$

a^{11}

d

i) Complete the table of values for

$x + y = 5$

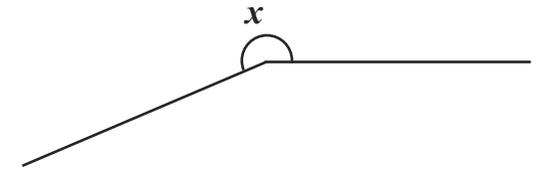| x	-2	-1	0	1	2	3
y	7	6	5	4	3	2

ii) Hence draw the graph of $x + y = 5$ for the values $-2 \leq x \leq 3$.

Correctly drawn graph

e

Measure the size of the angle marked x:

203° +/- 2 degrees

f

The list shows the ages of 8 children. Find the median age.

9, 7, 11, 13, 10, 15, 13, 17

12

a

Work out 4 × 10².

400

b
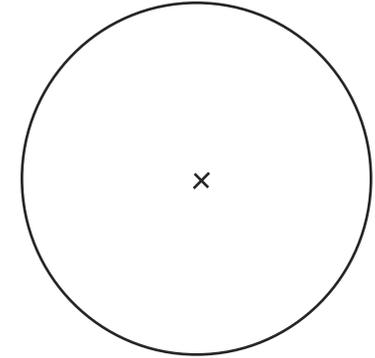
Write $\frac{7}{10}$ as:

i) a decimal;

0.7

ii) a percentage.

70%

c

Look at the function machine below.

Work out the input if the output is 21:

? → [x 7] → 21

3

d

The first four terms of a sequence are:

3, 7, 11, 15...

Simran says the number 302 is in the sequence. Explain why she is wrong.

The nth term is 4n – 1. If we write 4n – 1 = 302 and solve we get n = $\frac{303}{4}$ which is not an integer.

Or, all of the numbers in the sequence are odd.

e

Draw a chord on the circle.

Correctly drawn chord.

×

f

The following cards are placed in a box.

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

A card is selected at random. Find the probability that the number on the card is a prime number.

$\frac{1}{2}$

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a

Write the following numbers in order of size, starting with the smallest.

4, -2, 7, -1, 0, 5

-2, -1, 0, 4, 5, 7

b

Calculate the value of the letter a in the equation

$3a - 5 = 7$

$a = 4$

c

Solve the simultaneous equations:

$2x + y = 7$

$x + y = 4$

x = 3, y = 1

d

Reflect the shape in the line $y = 2$.

e

The frequency table shows the favourite colour of 15 children. Write down the modal colour.

Colour	Frequency
Red	3
Blue	4
Green	7
Yellow	1

Green

f
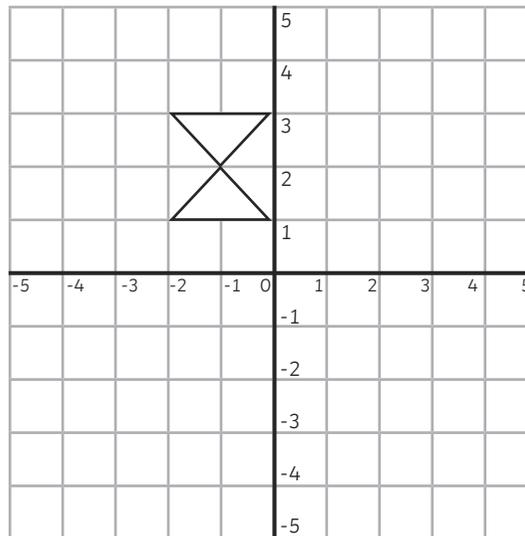
The table shows the probabilities of picking a chocolate at random from a bag.

Fairy Milk	Sneakers	Snars Bar	Kit Kit
0.1	0.35	**0.15**	0.4

Calculate the probability of picking a Snars bar.

Term 4 **Maths Activities Answers**

a

Work out, without using a calculator:

i) -3 × 4

-12

ii) 10 + -7

3

iii) -20 ÷ -5

4

c

A bag contains strawberry and mint flavoured sweets. There are 4 strawberry and 6 mint sweets.

i. **A sweet is chosen at random and replaced. Mark, on the scale, the probability of choosing a strawberry sweet.**

ii. **A sweet is chosen at random. Mark, on the scale, the probability of choosing a lime sweet.**

0   S   1

L

e

A car takes 3 hours to travel 60 miles. Work out its average speed for the journey.

20 miles per hour

b
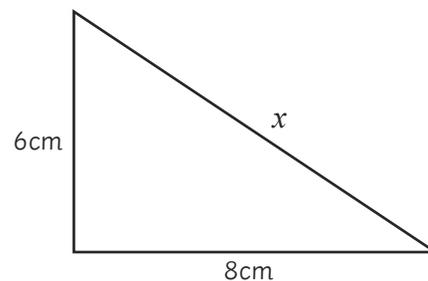
Eleanor thinks of a mystery number and subtracts 7. Her answer is 11.

What was her mystery number?

18

d

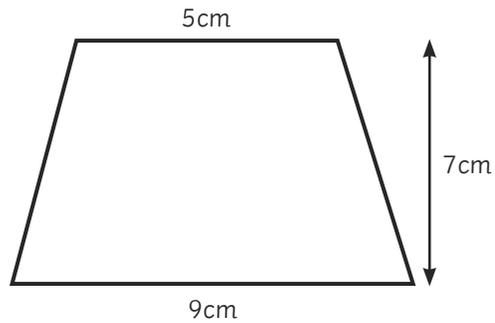Below is a right-angled triangle. Find the value of the missing length.

6cm

x

8cm

10cm

f

Factorise $10x + 8$

$2(5x + 4)$

a

Find the area of the trapezium.

5cm

7cm

9cm

49cm²

c

Simplify $4x + 3x^2 + 5x - x^2$

$9x + 2x^2$

e

Find 15% of £25.

£3.75

b

Is the answer to $\sqrt{60}$ between:

a) 6 and 7

  or,

b) 7 and 8?

b) 7 and 8 since 7^2 is 49 and 8^2 is 64.

d

Find the next two terms of the sequence:

1, 1, 2, 3, 5...

8, 13

f

Round 735 to 1 significant figure.

700

a

Solve the simultaneous equations:

$2x + y = 5$

$x + y = 2$

$x = 3 \quad y = -1$

c

Factorise $x^2 + 7x + 10$

$(x + 2)(x + 5)$

e

Simplify $(x^4)^5$

x^{20}

f

The table shows the favourite foods of 15 children. Draw a pie chart to represent the data.

Pie chart with following angles:

Favourite Food	Angle
Pizza	144
Curry	120
Chinese	96

b

Find the perimeter of the shape.

6cm

10cm　　7cm

9cm

38cm

d

There are 10 dogs and 12 cats in a pet shop. Write the ratio of dogs to cats, leaving your answer in its simplest form.

5 : 6