

Name:

Measuring

Shapes 3

Additional Tasks





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Quiz 1



1) $6^0 =$

2) $2^5 \times 2^8 =$

3) $\frac{3^{15}}{3^5} =$

4) $4^{-2} =$

5) $25^{\frac{1}{2}} =$

6) $(6^7)^3 =$

7) $6a^2b^3 \times 2a^4b^5$
= $$

8) $9c^8d^6 \div 3c^2d^2$
= $$

9) $9^6 \times 9^2 \div 9^4 =$

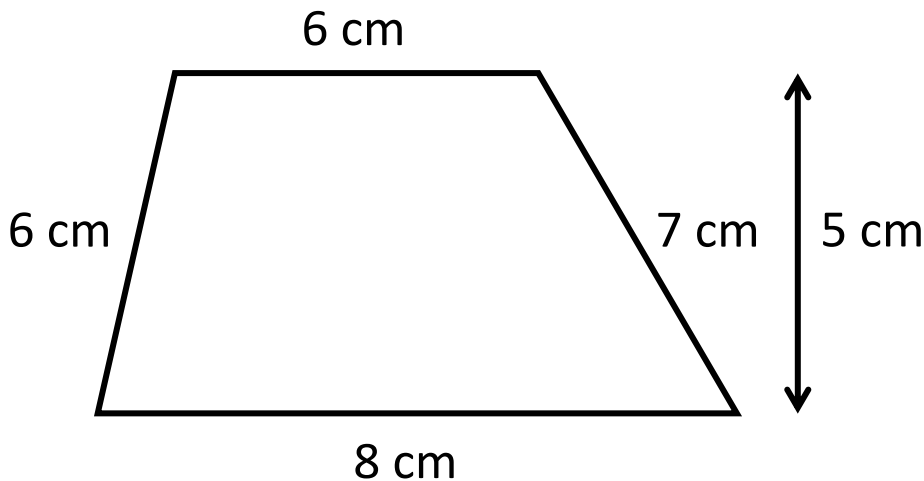
___ out of 9



Example 1



Calculate the perimeter and area of the trapezium below.



$$\begin{aligned} \text{Perimeter: } & 6 + 7 + 8 + 6 \\ & = \underline{27\text{cm}} \end{aligned}$$

$$\text{Area: } 6 + 8 = 14$$

$$14 \div 2 = 7$$

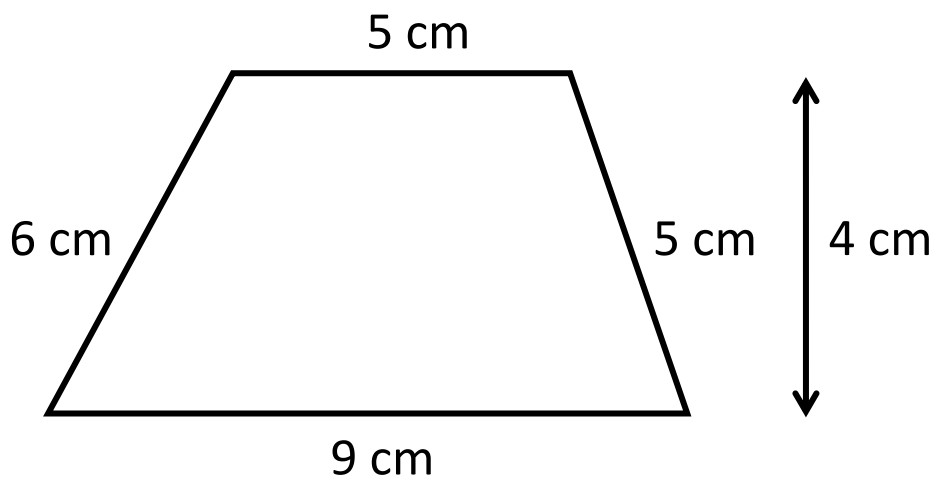
$$\frac{1}{2}(a+b) \times \text{height} \quad 7 \times 5 = \underline{35\text{cm}^2}$$



Exercise 1



Calculate the perimeter and area of the trapezium below.



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Quiz 2



1) Round off
3.8257 to one
decimal place.

2) Round off
3.8257 to two
decimal places.

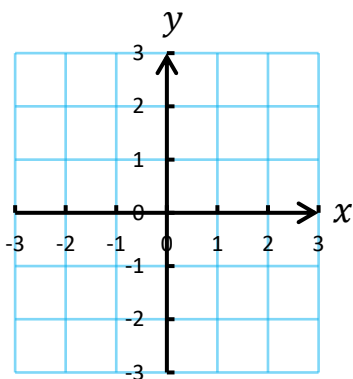
3) Round off
3.8257 to three
decimal places.

4) How many
pence are in £1?

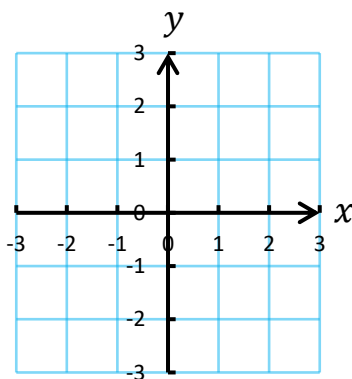
5) If £1 = €1.20
how much is £10
worth in Euros?

6) If £1 = €1.20
how much is €6
worth in pounds?

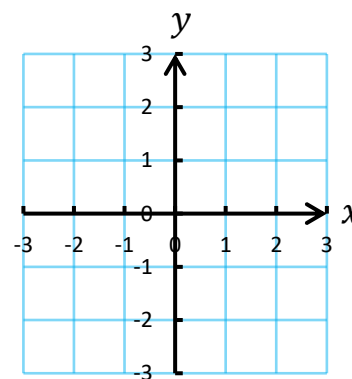
7) Draw the line
 $x = 2$.



8) Draw the line
 $y = -2$.



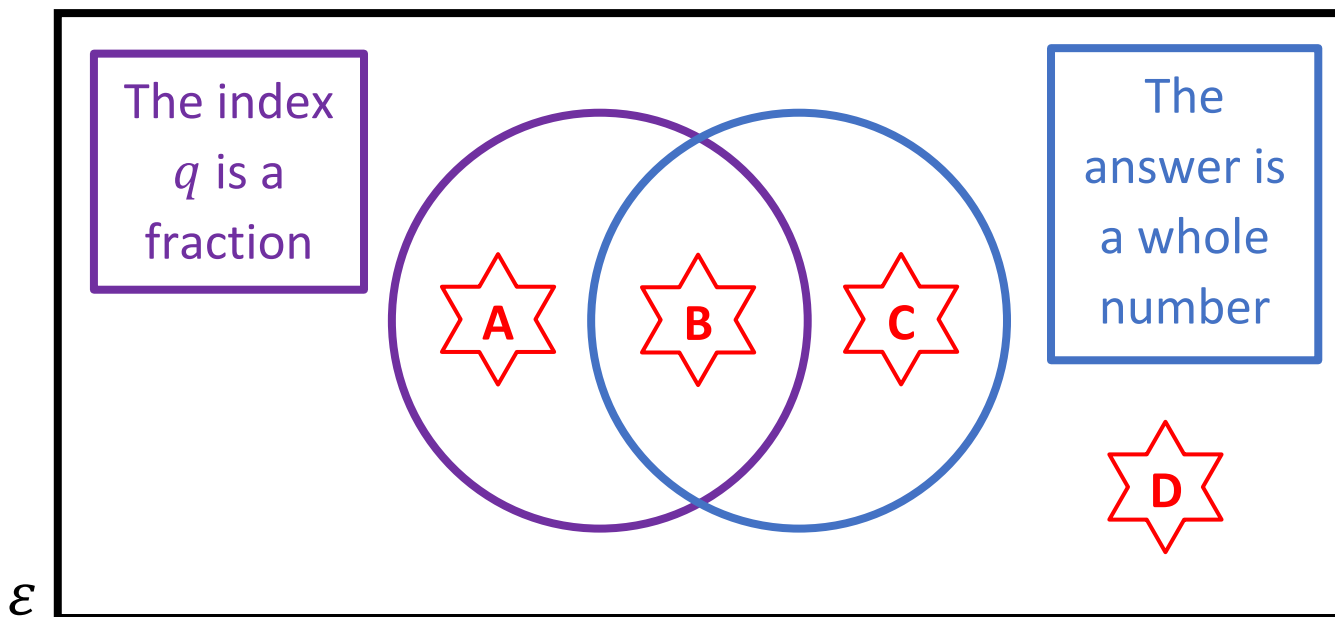
9) Draw the line
 $y = x$.



___ out of 9



Venn Diagram Challenge 1



Think of a number of the form p^q that could fit into each region. If you think a region is impossible to fill, explain why!











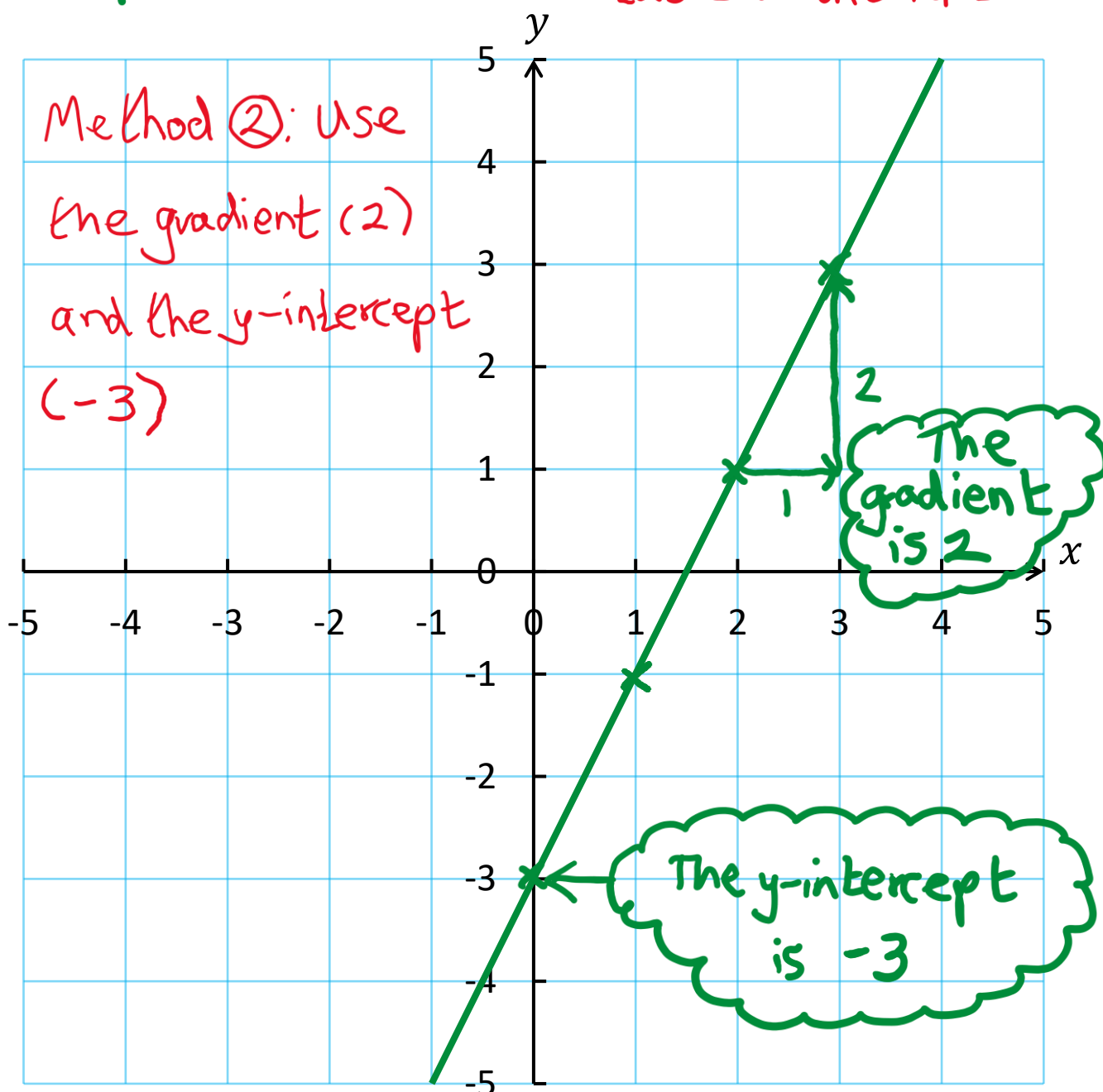
Example 2



Draw the line $y = 2x - 3$.

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

Method ①: Plot the values from the table on the left

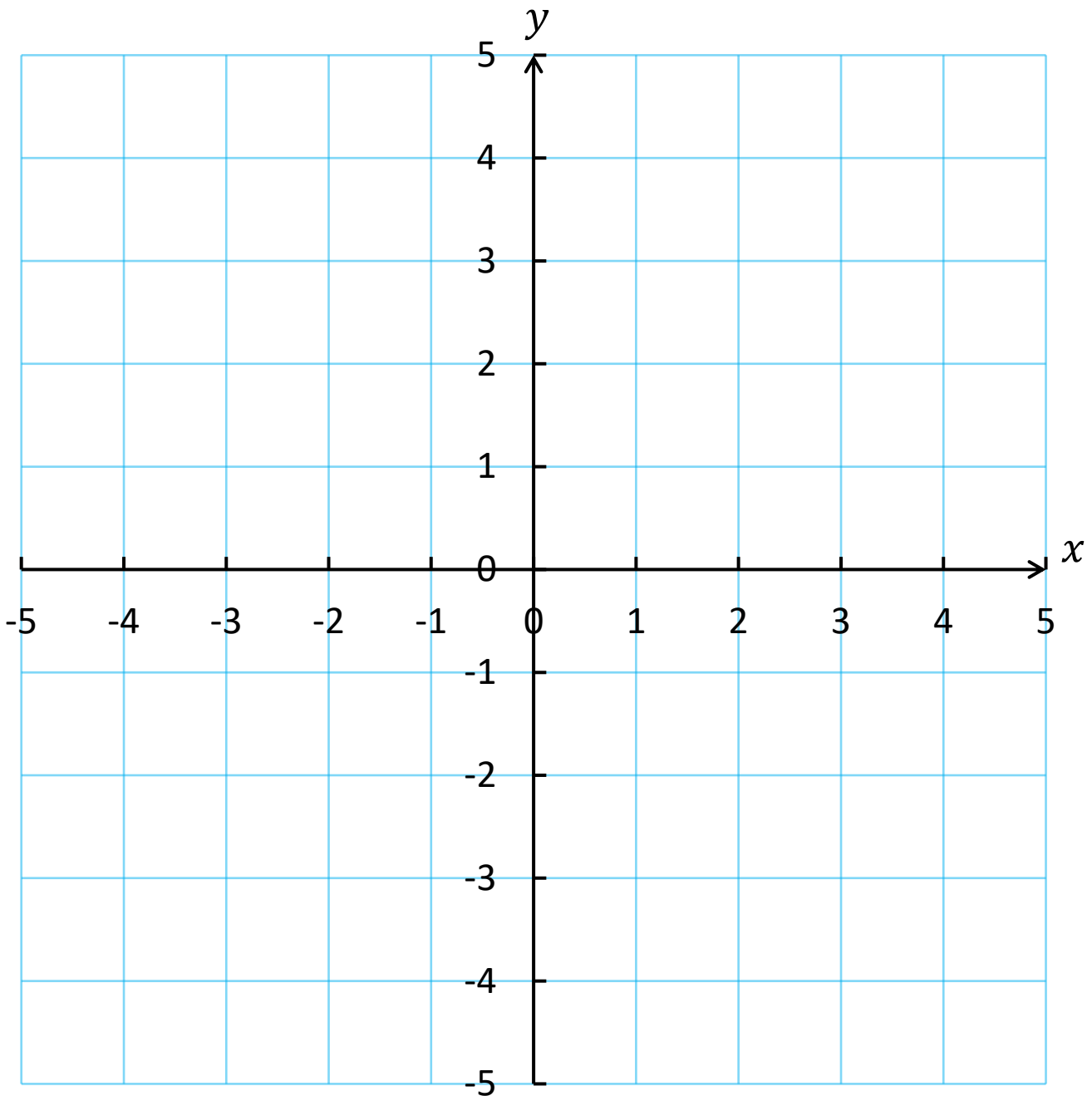




Exercise 2



Draw the line $y = 3x - 2$.



___ out of 2

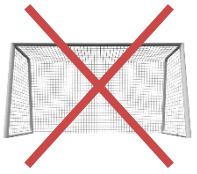


Quiz 3

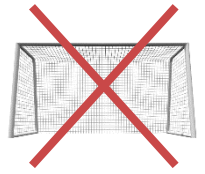


<p>1) Calculate the area of the shape.</p> <div style="text-align: center;"> <p>5 cm</p> <p>5 cm</p> </div>	<p>2) Calculate the perimeter of the shape.</p> <div style="text-align: center;"> <p>5 cm</p> <p>5 cm</p> </div>	<p>3) What is the gradient of the line $y = 5x + 2$?</p>
<p>4) Calculate the area of the shape.</p> <div style="text-align: center;"> <p>10 cm</p> <p>8 cm</p> <p>6 cm</p> </div>	<p>5) Calculate the perimeter of the shape.</p> <div style="text-align: center;"> <p>10 cm</p> <p>8 cm</p> <p>6 cm</p> </div>	<p>6) What is the gradient of the line $y = -4x + 6$?</p>
<p>7) Complete the formula:</p> <p>Speed</p> <p>=</p>	<p>8) Add North-east to the compass.</p> <div style="text-align: center;"> <p>G</p> </div>	<p>9) What is the y-intercept of the line $y = -3x + 5$?</p>

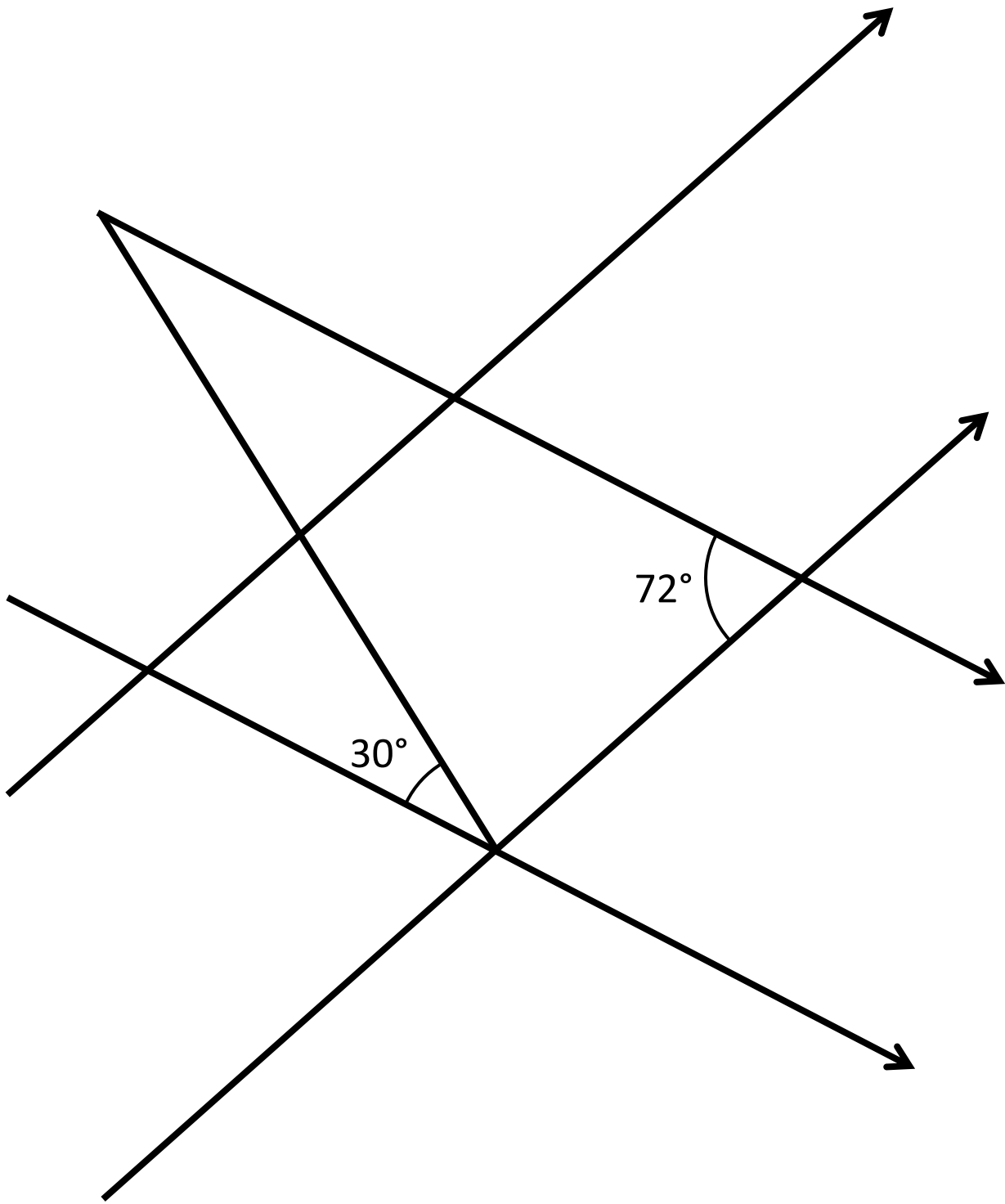
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Looking for the Angles



How many angles can you find in the following diagram?





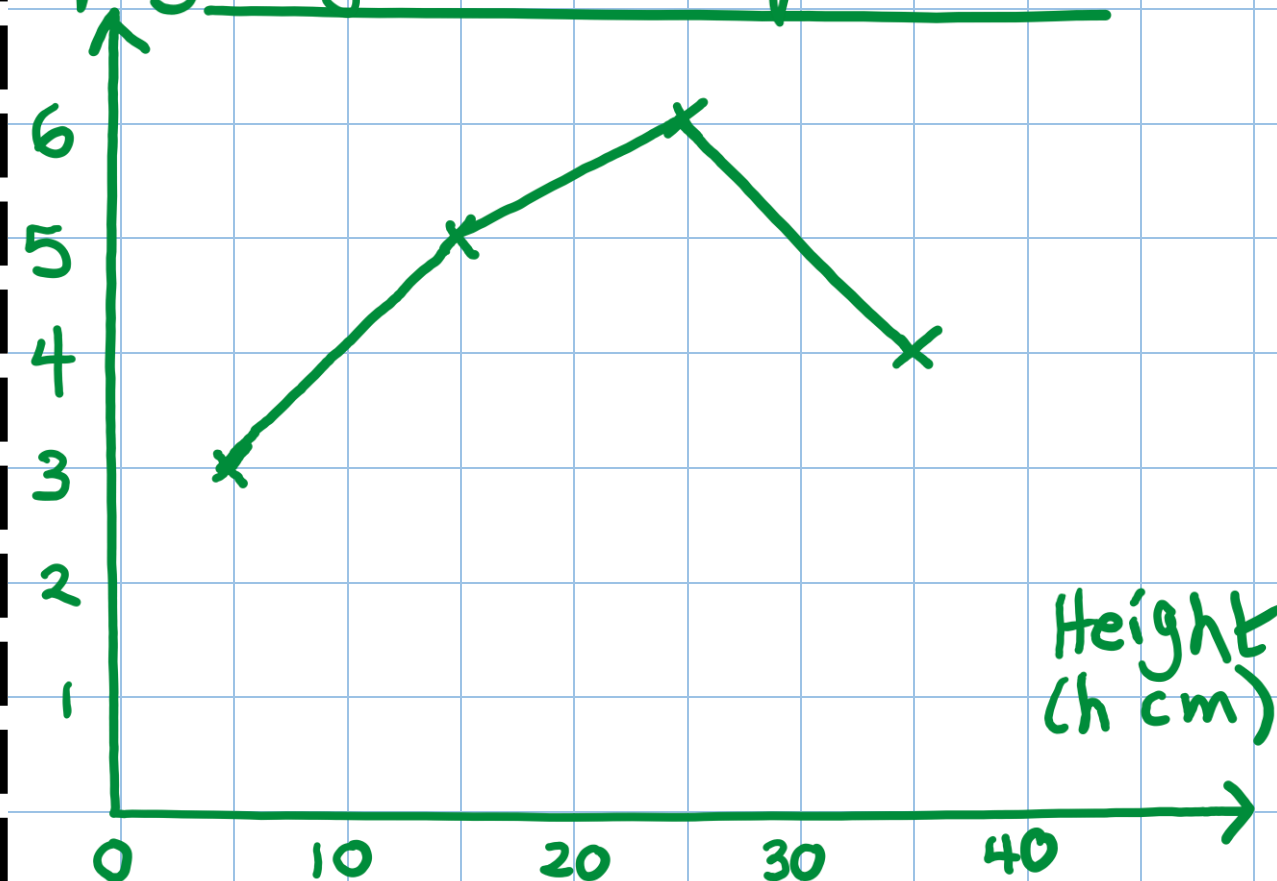
Example 3



Draw a frequency polygon for the following data showing the height of 18 plants.

Height, h cm	Frequency
$0 \leq h < 10$	3
$10 \leq h < 20$	5
$20 \leq h < 30$	6
$30 \leq h < 40$	4

Frequency polygon to show the
height of 18 plants



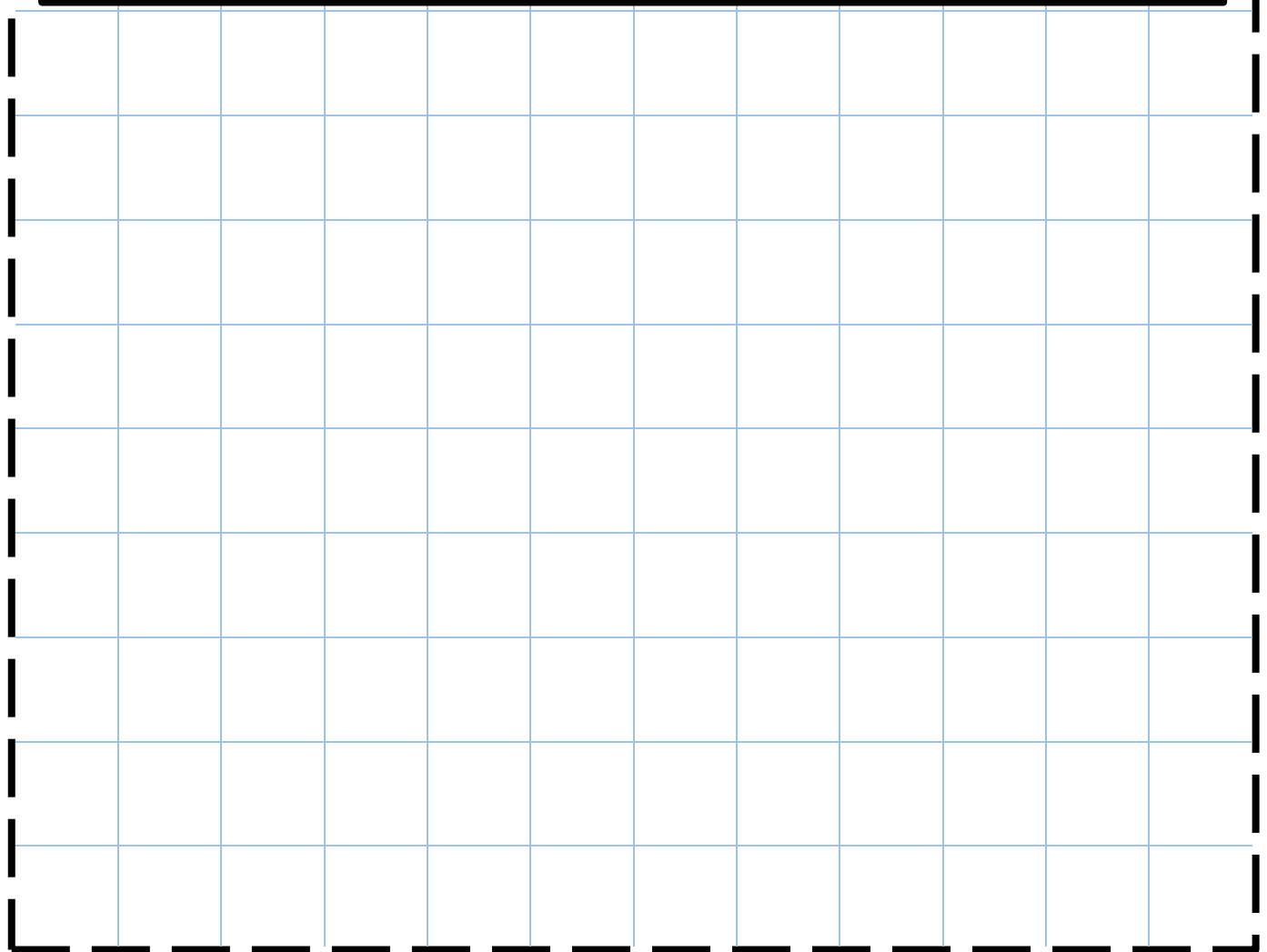


Exercise 3



Draw a frequency polygon for the following data showing the height of 18 plants.

Height, h cm	Frequency
$0 \leq h < 10$	5
$10 \leq h < 20$	4
$20 \leq h < 30$	6
$30 \leq h < 40$	3



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Quiz 4



1) Write the number 4,350,000 in standard form.

2) Write the number 0.0002839 in standard form.

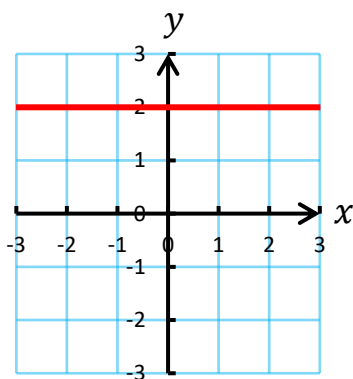
3) $36^{\frac{1}{2}} =$

4) Write 4.3×10^4 as an ordinary number.

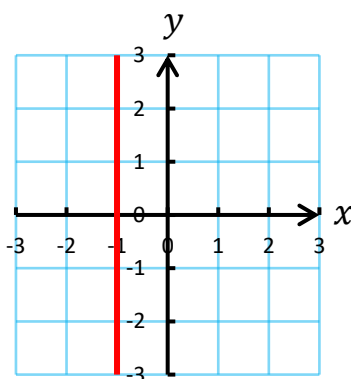
5) Write 7.25×10^{-2} as an ordinary number.

6) $2^{-3} =$

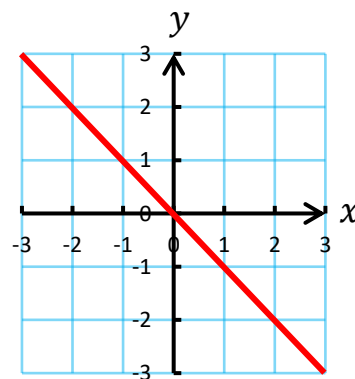
7) What is the equation of the line?



8) What is the equation of the line?



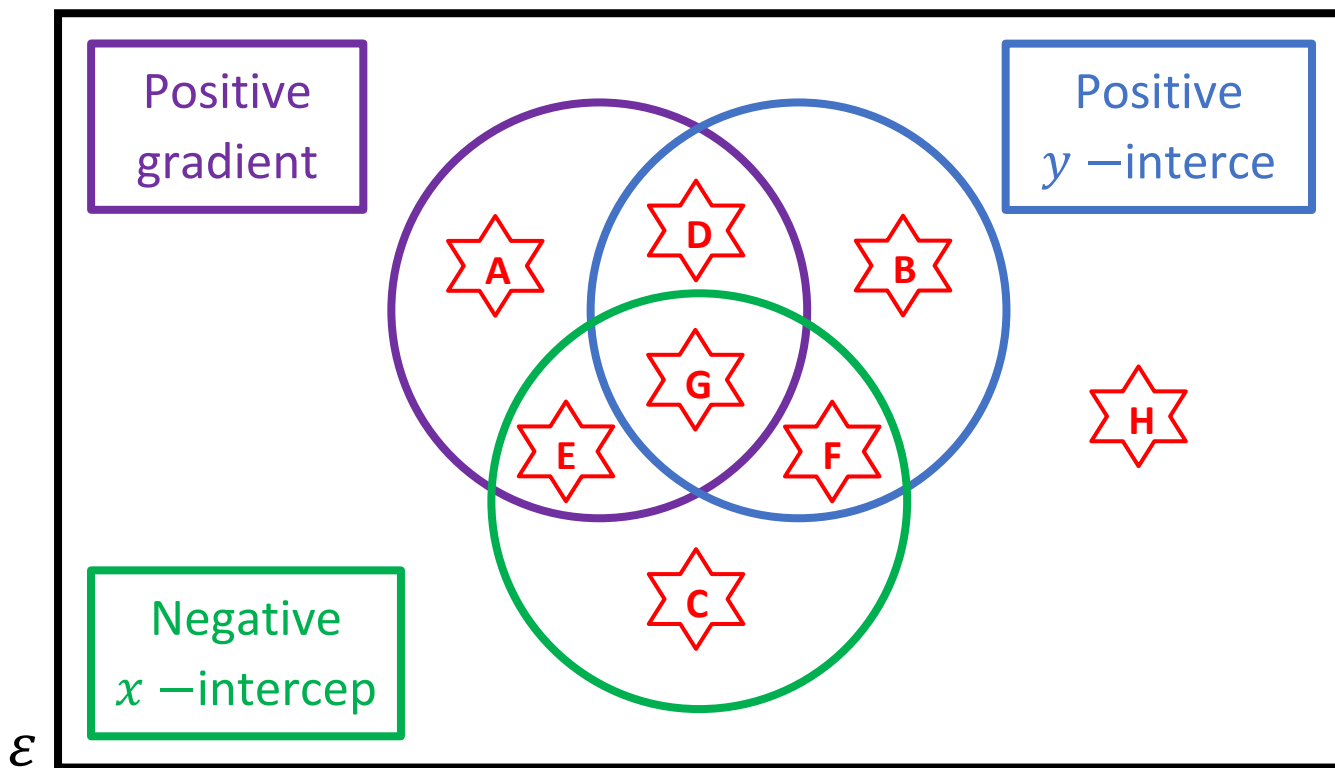
9) What is the equation of the line?



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Venn Diagram Challenge 2



Think of an equation for a straight line that could fit into each region. If you think a region is impossible to fill, explain why!

★ A		★ E	
★ B		★ F	
★ C		★ G	
★ D		★ H	



Example 4

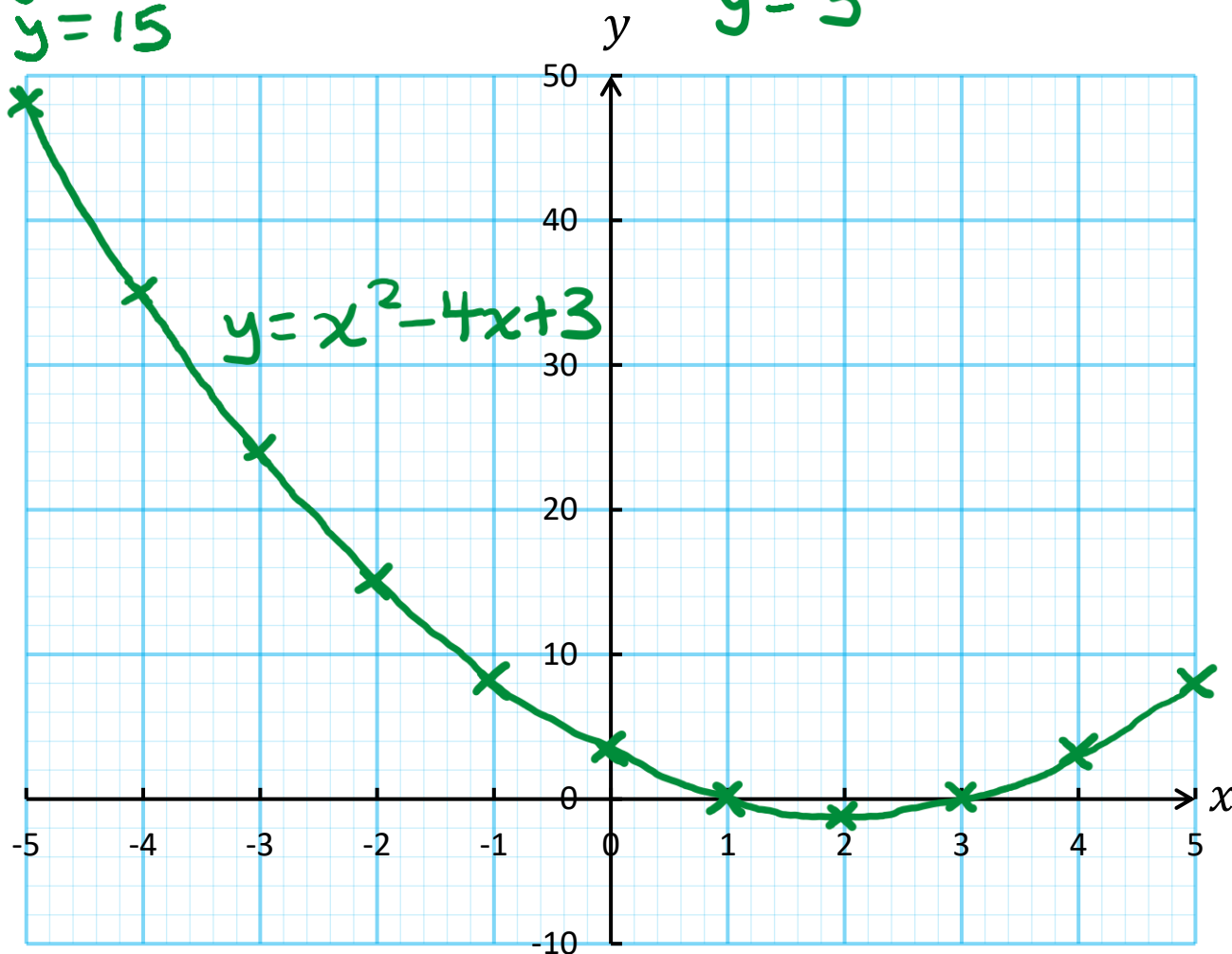


Plot the graph for $y = x^2 - 4x + 3$.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
y	48	35	24	15	8	3	0	-1	0	3	8

$$\begin{aligned}
 y &= (-2)^2 - 4 \times (-2) + 3 \\
 y &= 4 - -8 + 3 \\
 y &= 4 + 8 + 3 \\
 y &= 15
 \end{aligned}$$

$$\begin{aligned}
 y &= 4^2 - 4 \times 4 + 3 \\
 y &= 16 - 16 + 3 \\
 y &= 3
 \end{aligned}$$



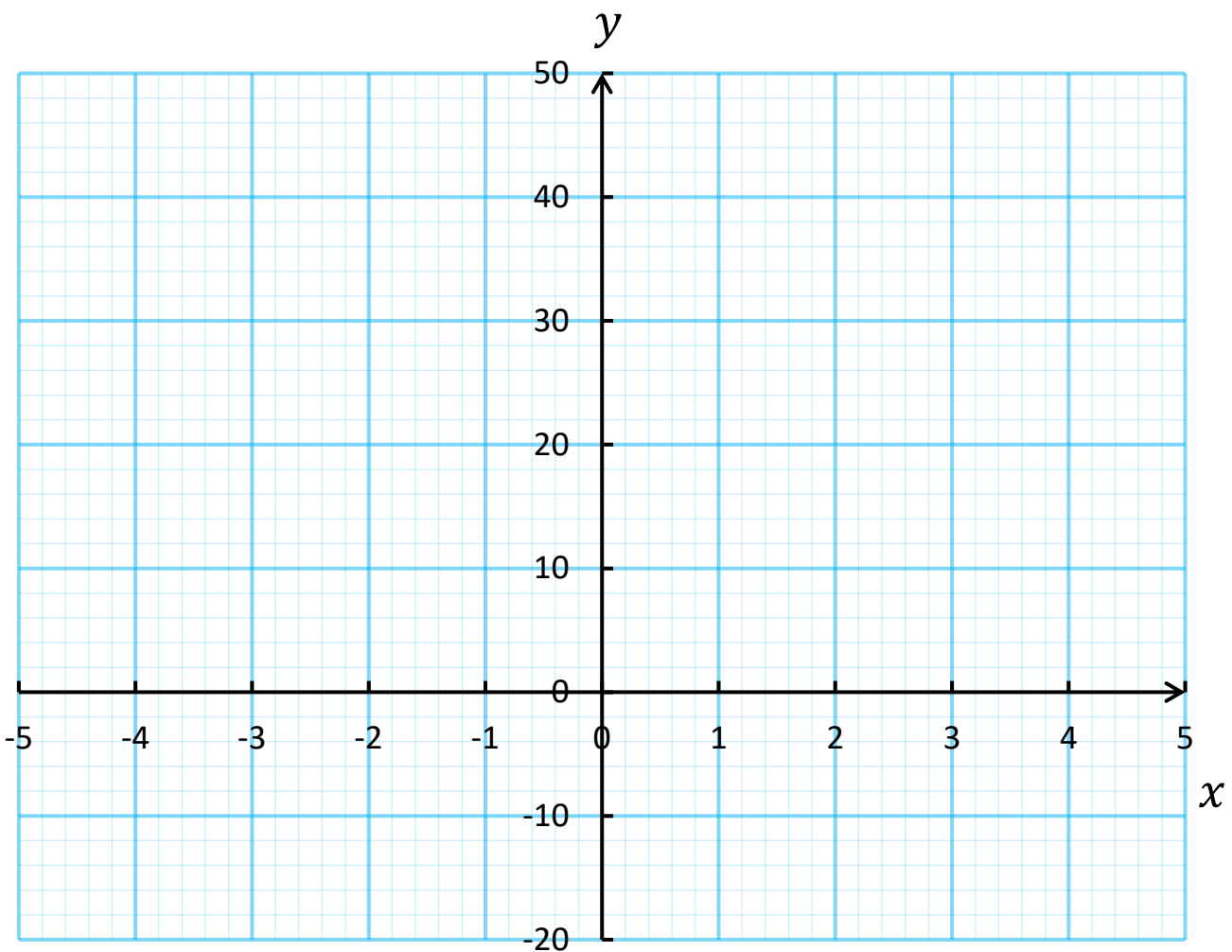


Exercise 4



Plot the graph for $y = x^2 + 5x - 4$.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
y	-4	-8	-10		-8	-4	2	10	20		46



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Quiz 5



1) $4 - -6$

2) Write the time 10:45pm in the 24-hour clock.

3) What type of angle is the angle 95° ?

4) The mean of 6, 1, 8, 5.

5) The range of 6, 1, 8, 5.

6) The median of 6, 1, 8, 5.

7) $8.9 \div 100$

8) 20% of £90

9) Write the fraction $\frac{2}{5}$ as a decimal.

___ out of 9

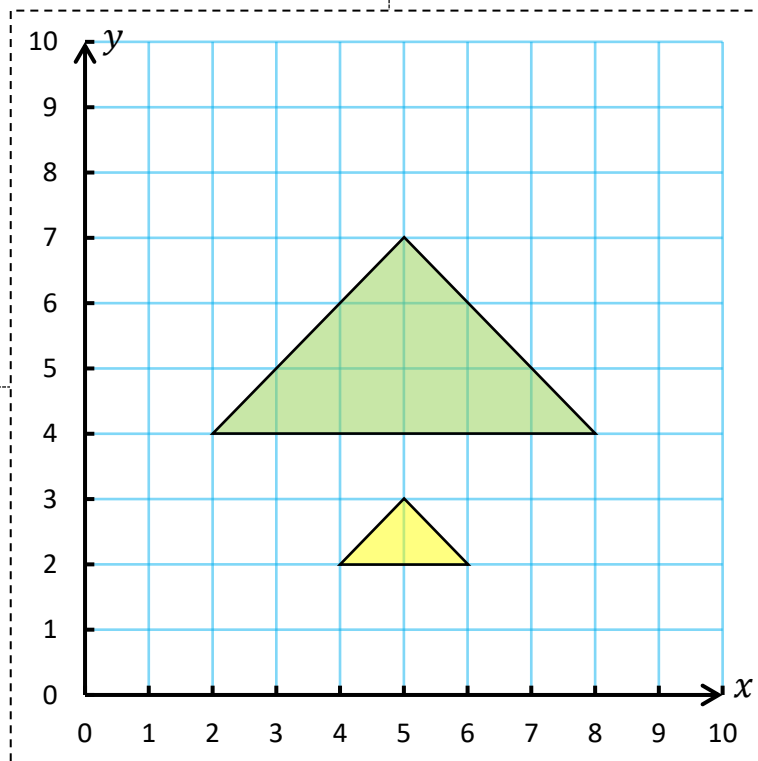


Enlarging the Triangle



1) The green triangle is an enlargement of the yellow triangle. What is the scale factor?

2) Where is the centre of enlargement?



3) What is the area of the green triangle?

4) Calculate the perimeter of the yellow triangle.

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Evaluating the Workbook



Notes

