

Name: _____



Developing

Algebra 3

Additional Tasks



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Quiz 1



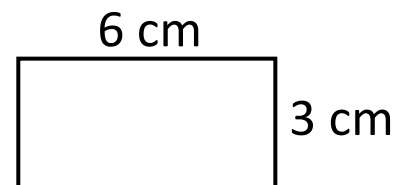
1) $2.4 + 5.89$

2) $\frac{2}{3} + \frac{1}{2}$

3) 20% of £60

4) The median of
6, 2, 4, 9, 1, 8

5) Solve
 $x - 4 = 6$

6) What is the
area of the
rectangle?7) What is the
formula for
calculating the
circumference of a
circle?8) Sketch a
frequency diagram.9) Simplify
 $3x + 9y + 4x - 2y$

___ out of 9



Example 1



What is the n th term of the following sequence?

14, 18, 22, 26, 30,

10 14, 18, 22, 26, 30, ...
↖ ↗ ↗ ↗ ↗
-4 +4 +4 +4 +4

N th term: $4n + 10$



Quiz 2



Solve the following equations.

1) $x + 3 = 10$

2) $3x = 24$

3) $\frac{x}{2} = 6$

4) $y - 4 = 15$

5) $2z = 1$

6) $\frac{12}{x} = 4$

7) $2x + 1 = 13$

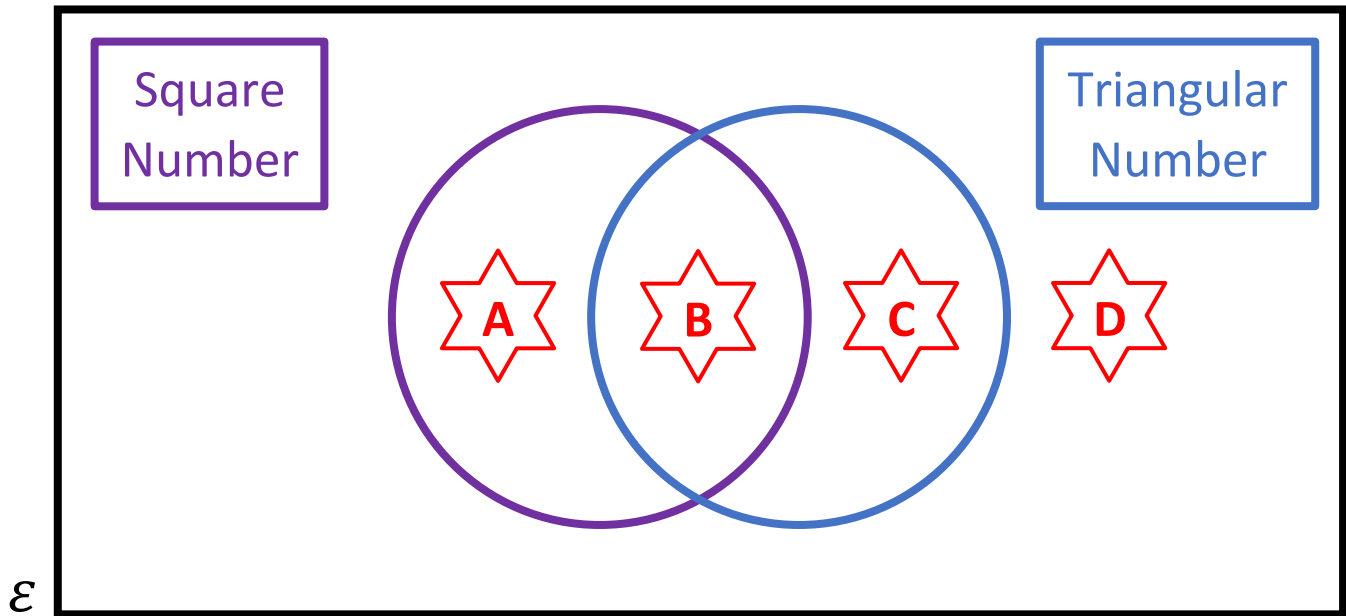
8) $3y - 2 = 19$

9) $\frac{x}{3} + 2 = 11$





___ out of 9



Venn Diagram Challenge 1



Think of a number that could go into each region.
 If you think a region is impossible to fill, explain why!

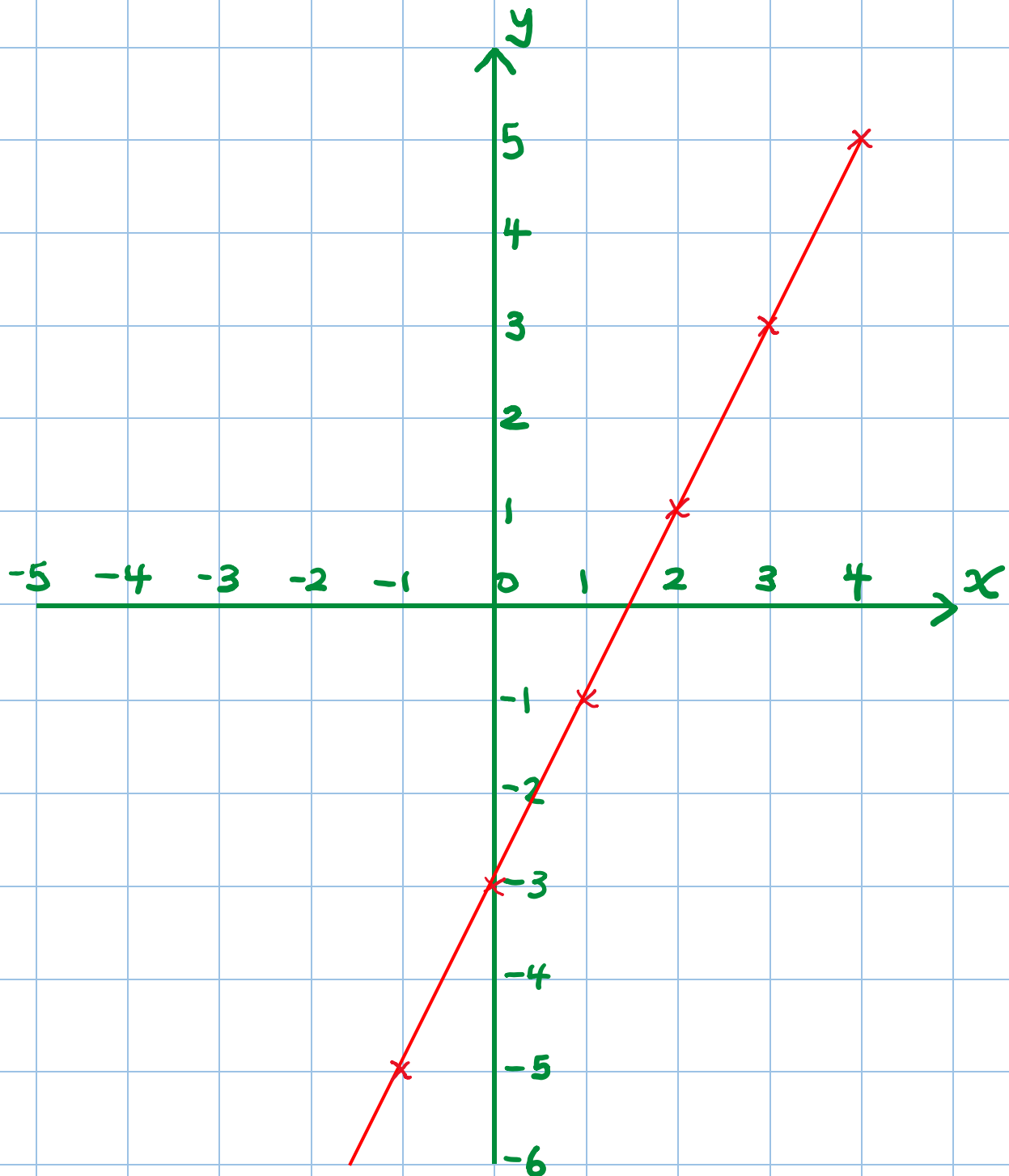







Example 2



Plot a graph for the equation $y = 2x - 3$.

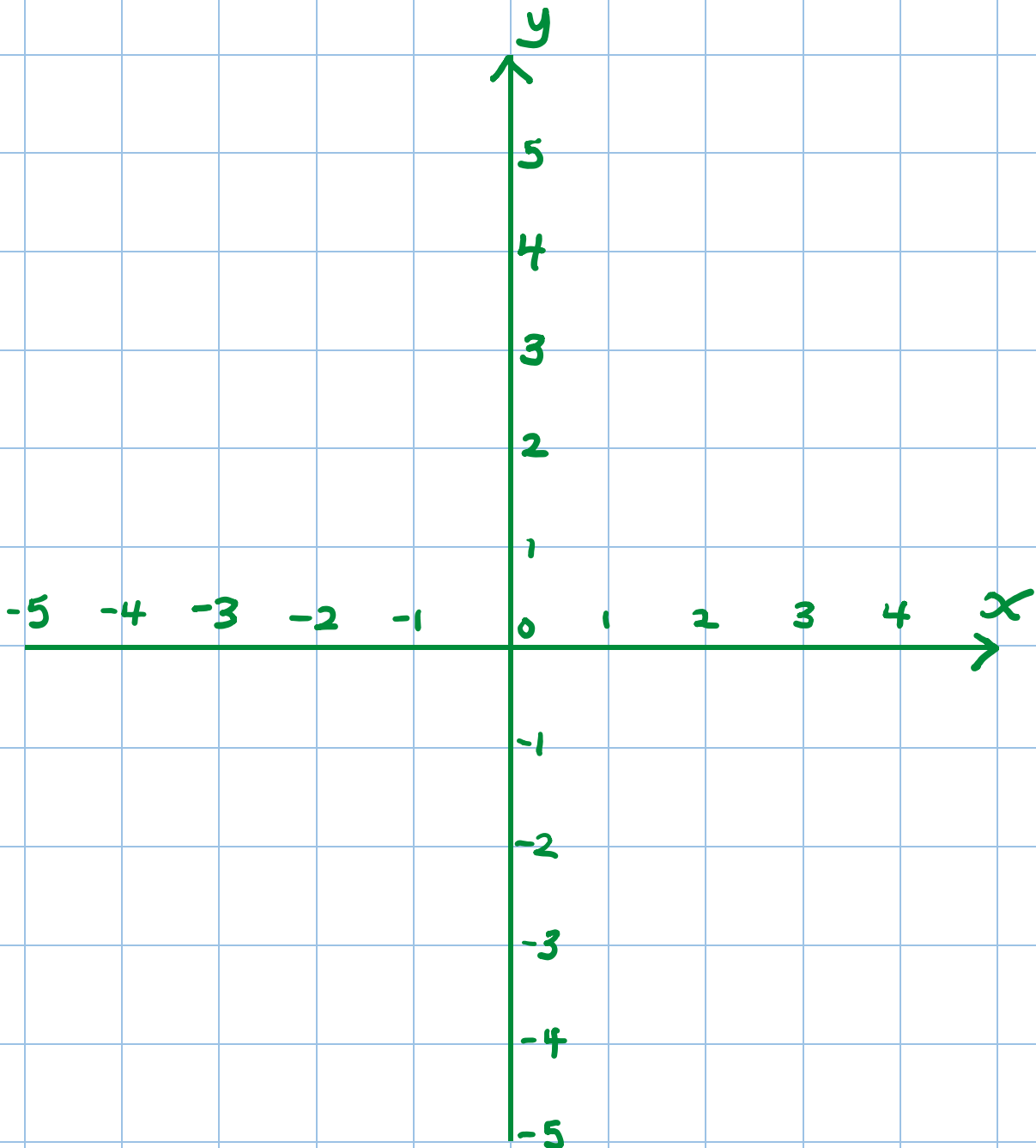




Exercise 2



Plot a graph for the equation $y = -3x + 4$.



___ out of 2



Quiz 3



Consider the numbers in the following list.

21, 22, 23, 24, 25, 26, 27, 28, 29, 30.

Using only numbers from the above list, write

1) The multiples of
4

2) A square
number

3) A factor of 60

4) A cube number

5) All the prime
numbers

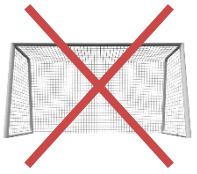
6) A multiple of
both 2 and 3

7) The even
numbers

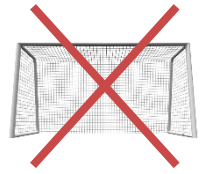
8) Two numbers
with a difference
of 8

9) Half of 58

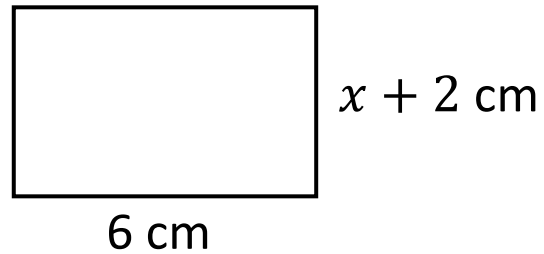
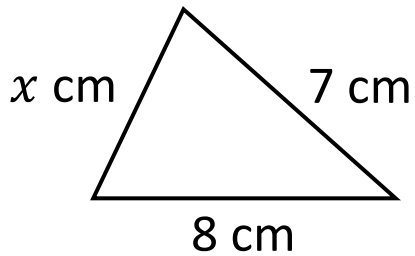
___ out of 9



The Triangle and the Rectangle



A triangle and a rectangle are shown below.



The diagrams are not drawn to scale

The perimeter of the triangle is 18 cm.

What can you work out using this information?



Example 3



The density of a piece of metal is 2.8 g/cm^3 .

If the piece of metal has volume 40 cm^3 , what is its mass?



$$\begin{aligned} \text{Mass} &= \text{Volume} \times \text{Density} \\ &= 40 \times 2.8 \\ &= \underline{112 \text{ g}} \end{aligned}$$



Quiz 4



1) Expand
 $4(x + 2)$

2) Expand
 $(x + 3)(x + 5)$

3) Solve
 $7x - 3 = 25$

4) Make g the
subject of the
formula
 $f = 2 - 3g$

5) Simplify
 $8a - 2a + 3a$

6) Substitute
 $x = 3$ into
 $3x - 4$

7) Solve
 $\frac{y}{4} = 8$

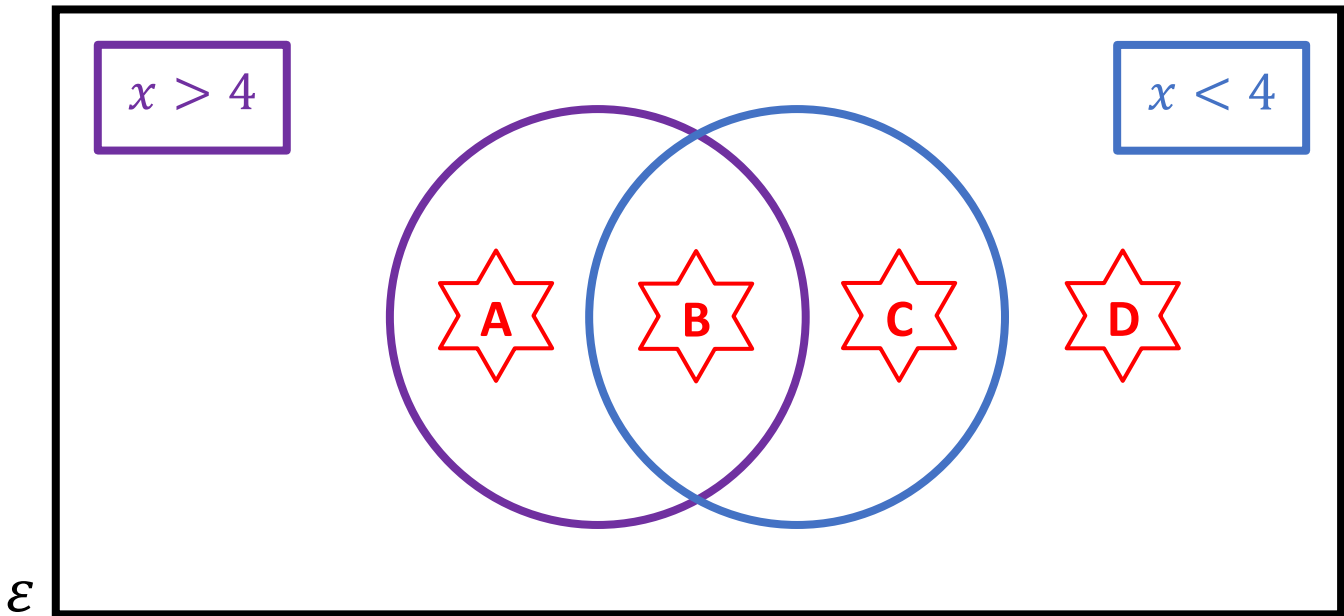
8) Factorise
 $12x - 16$

9) Factorise
 $x^2 - 5x$

___ out of 9



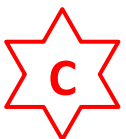
Venn Diagram Challenge 2



Think of a number for x that could go into each region.
If you think a region is impossible to fill, explain why!







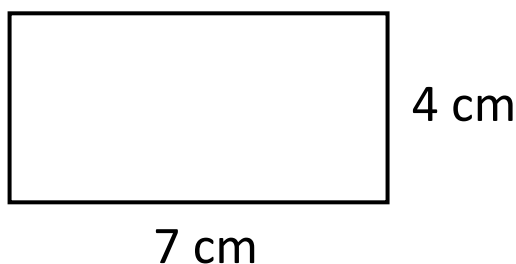




Example 4



The measurements of the following rectangle are given correct to the nearest centimetre. Calculate the largest possible perimeter of the rectangle.



Greatest Possible Length: 7.5 cm

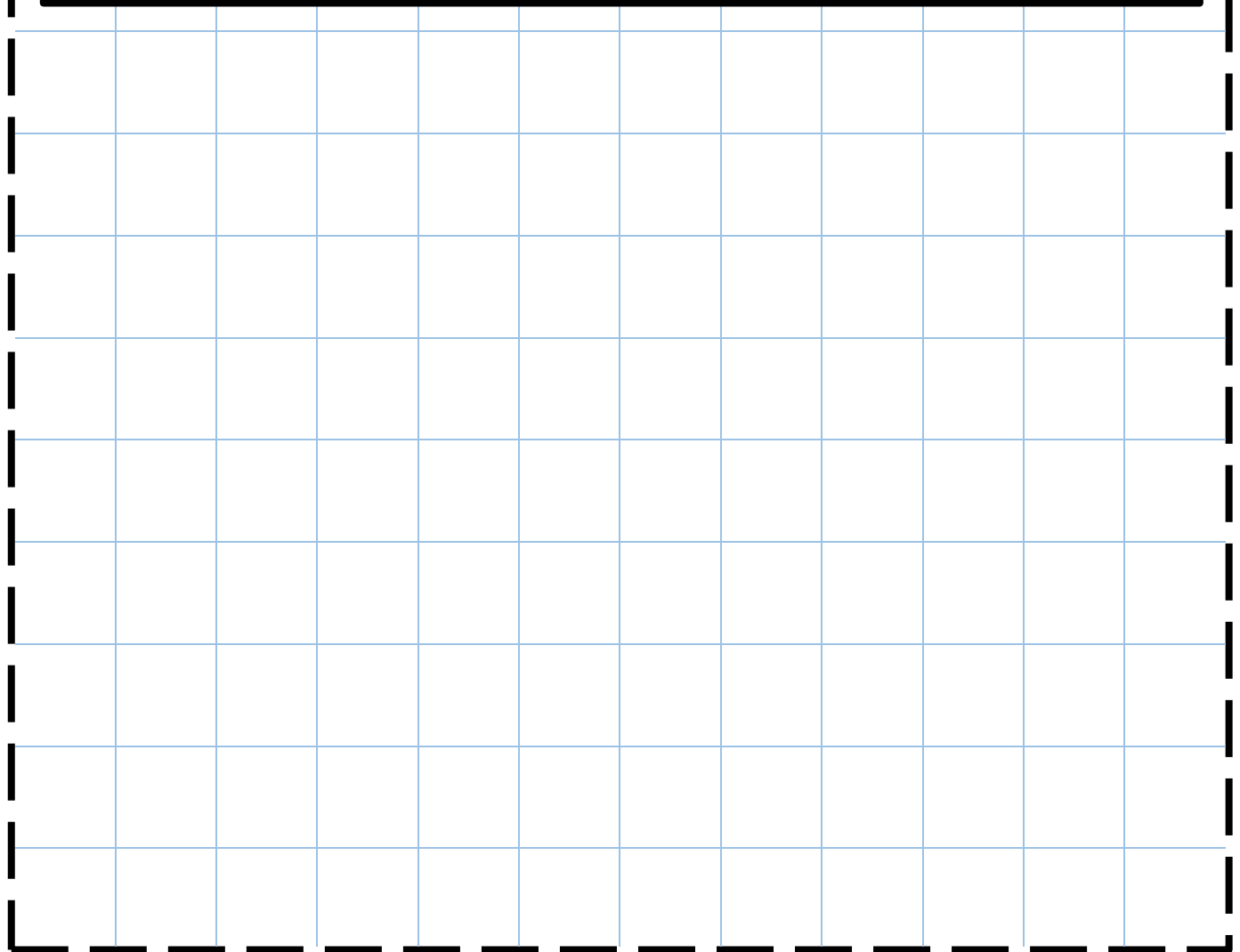
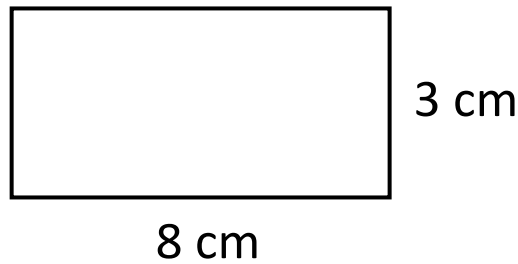
Greatest Possible Width: 4.5 cm

Greatest Possible Perimeter:

$$7.5 + 4.5 + 7.5 + 4.5 = \underline{24 \text{ cm}}$$

**Exercise 4**

The measurements of the following rectangle are given correct to the nearest centimetre. Calculate the least possible area of the rectangle.



___ out of 4



Quiz 5



Solve the following inequalities.

1) $x + 4 > 8$

2) $3x \leq 27$

3) $y - 3 < 10$

4) $\frac{z}{2} \geq 6$

5) $-2x > 10$

6) $\frac{x}{-3} \leq -2$

7) $4x - 2 < 18$

8) $2 - 4x \geq 18$

9) $\frac{x+3}{5} < 5$

___ out of 9



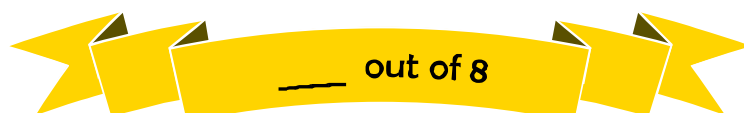
1) How much plain flour is needed to make 36 pancakes?

2) How much milk is needed to make 6 pancakes?



3) What is the greatest number of pancakes you can make with 3 eggs?

4) Ceri has half a pint of milk left in the fridge. Is this enough to make 12 pancakes?



Evaluating the Workbook



Notes



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