Algebra

6.2

Total Marks (out of 20)	

Name	
Date	

Section 1:

use simple formulae

1 y stands for a number.

Match the equivalent expressions

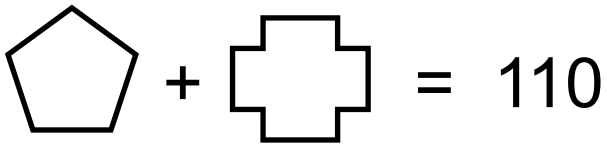
One has been done for you.

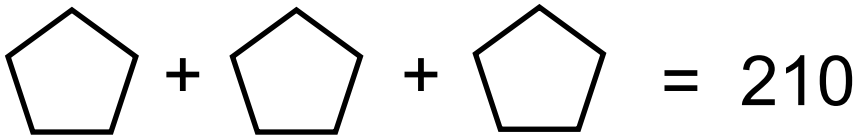
5 more than y	y^2
y plus y	y + 5
3 less than y	3 - y
y multiplied by 3	2y
	y - 3
	3y

3 marks

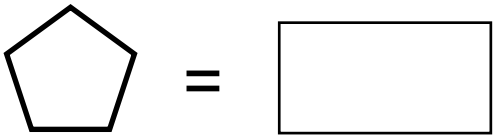
v1 created 21/11/16

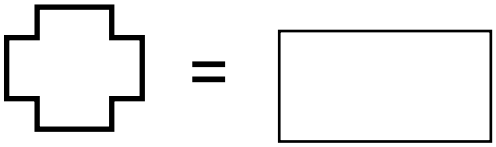
2 Each shape stands for a number.





Find the value of each shape.





2 marks

3 Look at this equation.

$$2a + b = 100$$

Complete these statements.

When a = 10 b = 80

When a = 45 b = ☐

When a = 17 b = ☐

When a = ☐ b = 50

3 marks

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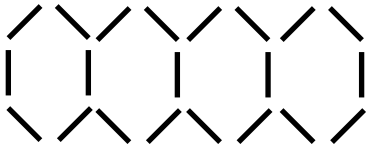
Section 2:

generate and describe linear number sequences

4 Bethany is making a pattern using matchsticks.

She makes a row of hexagons.

She records how many matchsticks she has used.



Complete the table.

Number of hexagons (h)	1	2	3	4	5
Number of matchsticks (m)	6	11	16		

2 marks

He made a row of **ten hexagons.**

How many **matchsticks** did she use?

1 mark

Tick the equation which shows the relationship between h and m.

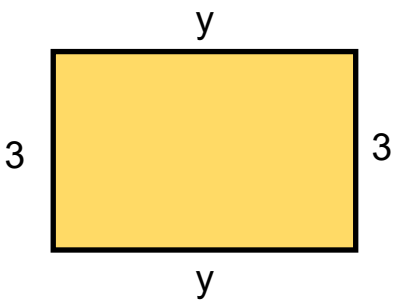
m = h + 5	m = 5h + 1
m = 6h	h = 5m + 1

1 mark

Section 3:

express missing number problems algebraically

5 Here is a rectangle.



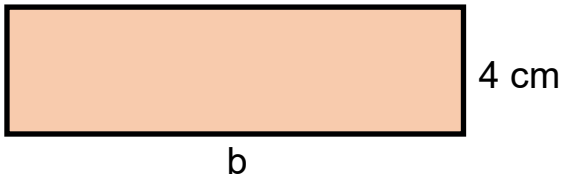
not to scale

What is the **perimeter** of the rectangle? (Tick one)

- y + 3
- 3y
- y + 6
- 2y + 6

1 mark

5 This rectangle has an **area of 48 cm²**



not to scale

What is the **value of b?**

cm

1 mark

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Section 4:

find pairs of numbers that satisfy an equation with two unknowns

6 Write possible values for each equation.

$a + b = 35$

a = ☐ b = ☐

1 mark

$c \times d = 20$

c = ☐ d = ☐

1 mark

$e - f = 1$

e = ☐ f = ☐

1 mark

7 Monty and Archie count the money in their pockets.

They have 50p between them.

Monty has 2p more than Archie.

How much money does Archie have?

☐ p

1 mark

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Section 5:

enumerate possibilities of combinations of two variables

8 Sophia looks in her purse. She only has 10p coins and 5p coins.

She buys a drink for **35p**.

How many different ways are there for her to pay? Show them all.

different ways

2 marks

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