

NAME

**Time:**

**Non-Calculator Questions**



1  $x$  is an integer.

Write down all the values of  $x$  that satisfy the inequality  $-2 \leq x < 2$

(2 marks)



3  $5x + 3 < 19$  where  $x$  is an integer.

Find the largest possible value of  $x$ .

(3 marks)



5 Solve the simultaneous equations

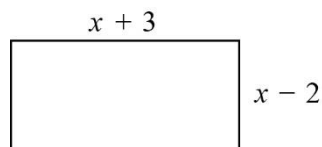
$$3x + 2y = -3$$

$$2x + 6y = 5$$

(3 marks)



7 The diagram shows a rectangle.



The area of the rectangle is  $24 \text{ cm}^2$

a Write down and solve an equation to find the value of  $x$ .

(4 marks)

7b Write down the length and width of the rectangle.

(1 mark)



9  $x^2 - 6x + 3$  can be written in the form  $(x + p)^2 + q$

a Find the values of  $p$  and  $q$ .

(2 marks)



b Use your answer to part a to solve the equation  $x^2 - 6x + 3 = 0$

Leave your answer in surd form.

(3 marks)



Calculator Questions



11 Solve the inequality  $-9 < 4x < 14$

(2 marks)



13 Solve the equation  $7x^2 + 8x - 3 = 0$

Give your solutions correct to 3 significant figures.

You must show all your working.

(3 marks)

Overall mark	/50
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