Q1.

(a) Factorise $x^2 + 5x - 24$

_____

_____

Answer _____

(2)

(b) Solve $x^2 + 5x - 24 = 0$

_____

Answer _____

(1)

(Total 3 marks)

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Q2.

I am thinking of two numbers.

The first number is x.
The second number is 7.5 more than x.

(a)   Write down an expression, in terms of x, for the second number.

Answer _____

(1)

(b)   For the two numbers,

the product is double the sum.

Work out the numbers I could be thinking of.
Give both possible pairs of answers.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ and _____
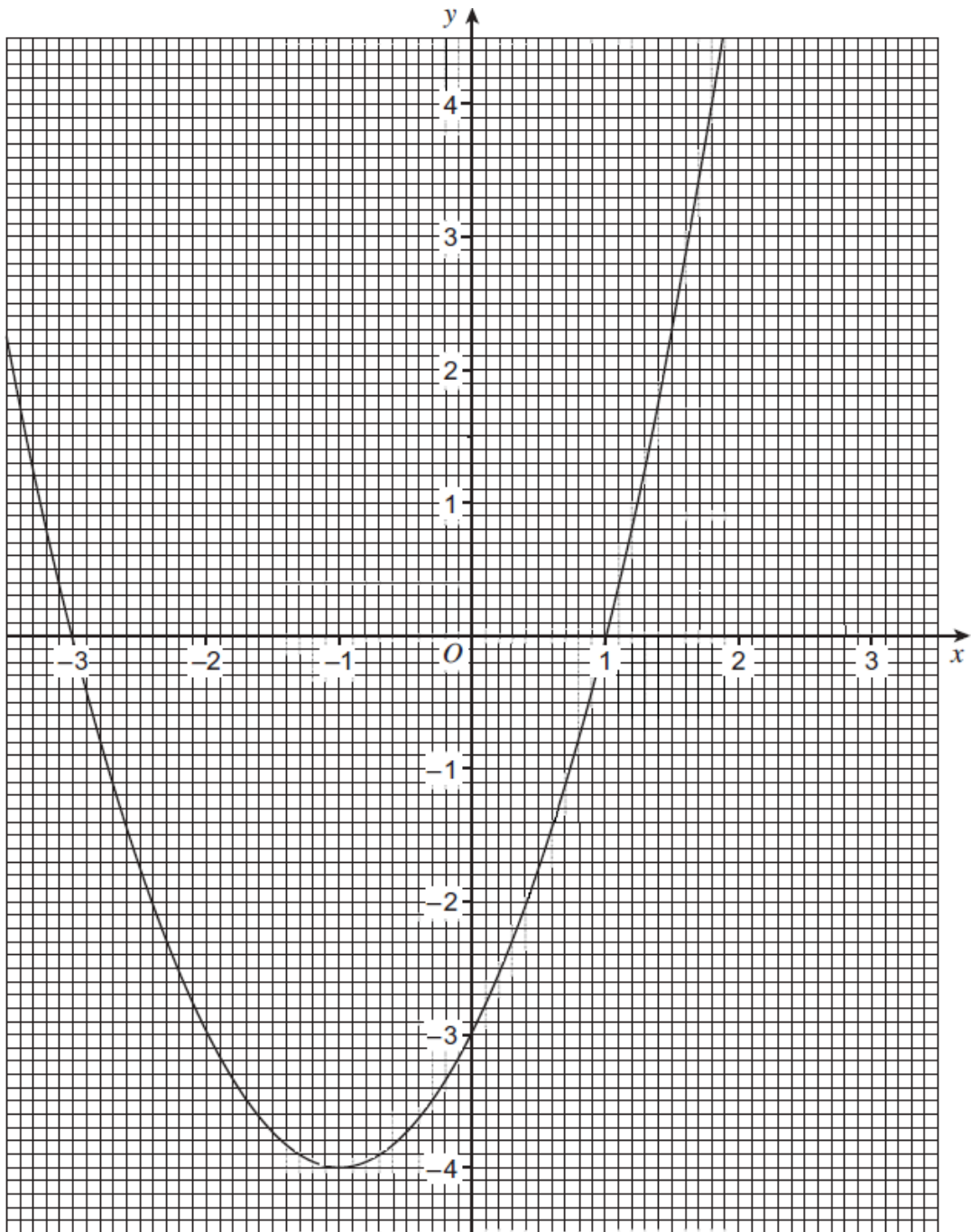
or

_____ and _____

(5)

(Total 6 marks)

Q3.

The graph of $y = x^2 + 2x - 3$ is drawn below.

Draw an appropriate straight line on the graph to work out the approximate solutions of

$$x^2 + x - 3 = 0$$

_____

_____

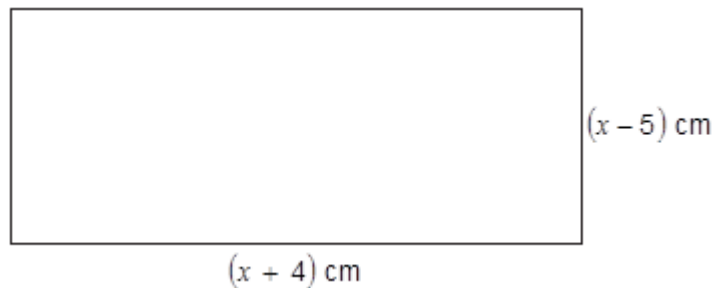Answer _____

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

(Total 3 marks)

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Q4.

The expression $\dfrac{x^2 - 9}{x^2 + bx - 15}$ simplifies to $\dfrac{x+3}{x+5}$

Work out the value of b.

_____

_____

_____

_____

_____

$b =$ _____

(Total 3 marks)

Q5.

The diagram shows a rectangle.

$(x - 5)$ cm

$(x + 4)$ cm

The area of the rectangle is 90 cm2.

Set up and solve a quadratic equation to work out the value of x.

_____

_____

_____

_____

_____

$x =$ _____ cm

(Total 5 marks)

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Q6.

(a) Expand and simplify $(x + 5)(x - 4)$

_____

_____

_____

Answer _____

(2)

(b) Solve $(x - 8)(x + 7) = 0$

_____

_____

_____

Answer _____

(1)

(Total 3 marks)

Q7.

(a) Factorise $x^2 - 9x + 20$

_____

_____

_____

Answer _____

(2)

(b) Solve $x^2 - 9x + 20 = 0$

_____

_____

_____

Answer _____

(1)

(Total 3 marks)

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Q8.

The area of this rectangle is 28 cm2

Not drawn accurately

$(x + 2)$ cm

$(6x - 1)$ cm
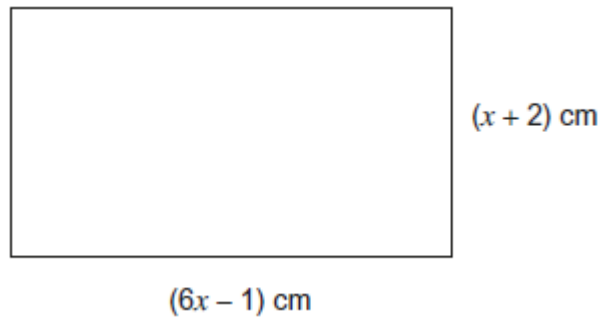
Work out the perimeter of the rectangle.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ cm

(Total 7 marks)

Q9.

(a) Simplify fully $5x2 \times 3y4 \times 2x \times y3$

_____

_____

_____

Answer _____

(2)

(b) Expand and simplify $(x + 7)(x - 3)$

_____

_____

Answer _____

(2)

(c) Solve $(x - 8)(x + 2) = 0$

_____

Answer _____

(1)

(d) Factorise $8x2y + 6xy2$

_____

Answer _____

(2)

(Total 7 marks)

AQA GCSE Maths - Solving Quadratic Equations (F)