

Q1.

$2x^2 - 6x + 5$ can be written in the form $a(x - b)^2 + c$

where a , b and c are positive numbers.

(a) Work out the values of a , b and c

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

$a =$

$b =$

$c =$

(3)

(b) Using your answer to part (a), or otherwise, solve $2x^2 - 6x + 5 = 8.5$

.....

.....

.....

.....

.....

.....

.....

.....

Answer

(3)
 (Total 6 marks)

Q2.

Solve the quadratic equation $5x^2 + 8x + 2 = 0$

Give your answers to 1 decimal place.

.....

Answer

(Total 3 marks)

Q3.

Solve the equation $\frac{1}{x-2} - \frac{1}{x-1} = 2$

Give your answers to 2 decimal places.

.....

.....

.....

.....

.....

.....

.....

.....

Answer

(3)

(c) Simplify $\frac{3x^2 - x - 10}{x^2 - 4}$

.....

.....

.....

.....

.....

.....

Answer

(3)

(Total 9 marks)

Q7.

You are given that $x^2 + ax + b \equiv (x - 5)^2 + 7$

Work out the values of a and b .

.....

.....

.....

$a =$

$b =$

(Total 3 marks)

Q8. Solve the quadratic equation $3x^2 - 12x - 5 = 0$

Give your answers to 2 decimal places.

.....

Answer

(Total 3 marks)

Q9. You are given that $x^2 - 12x + a = (x - c)^2$

Work out the values of a and c .

.....

$a = \dots\dots\dots$

$c = \dots\dots\dots$

(Total 3 marks)

Q10.

Use the quadratic formula to solve $2x^2 - 5x - 4 = 0$
 Give your answers to 2 decimal places.

.....

Answer

(Total 3 marks)

Q11. Write $x^2 + 8x + 7$ in the form $(x + a)^2 + b$

.....

Answer

(Total 3 marks)

Q12. Solve $x^2 + 6x + 2 = 0$

Give your answer in the form $a \pm \sqrt{b}$ where a and b are integers.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Answer

(Total 4 marks)

Q13.

Solve $2x^2 + 3x - 7 = 0$

Give your answers to 2 decimal places.

.....

.....

.....

.....

.....

.....

.....

Answer

(Total 3 marks)