

Non-Calculator

Q1.

- (a) Expand and simplify $(6x - 1)(2x + 3)$

Answer _____

(2)

- (b) Solve $4x^2 + x - 3 = 0$

Answer _____

(3)

(Total 5 marks)

Q2.

The equation of a curve is $y = (x + 3)^2 + 5$

Circle the coordinates of the turning point.

(5, 3)

(5, -3)

(3, 5)

(-3, 5)

(Total 1 mark)

Calculator

Q5.

Solve $\frac{x}{4} - \frac{2x}{x+2} = 1$

Give your solutions to 2 decimal places.

You **must** show your working.

Answer _____

(Total 6 marks)

Q6.

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

Give your answers to 2 decimal places.

Answer _____

(Total 6 marks)

Q7.

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

Work out the values of a and c .

$a =$ _____

$c =$ _____

(Total 3 marks)

Q8.

(a) Write $x^2 + 6x + 10$ in the form $(x + a)^2 + b$

Answer _____

(2)

(b) Hence, write down the coordinates of the turning point of the curve $y = x^2 + 6x + 10$

Answer (.....,) (1)

(1)

(Total 3 marks)

Q9.

You are given that $(x + a)^2 - 7 \equiv x^2 + 10x + b$

Work out the values of a and b .

$a =$ _____

$b =$ _____

(Total 2 marks)

Q10.

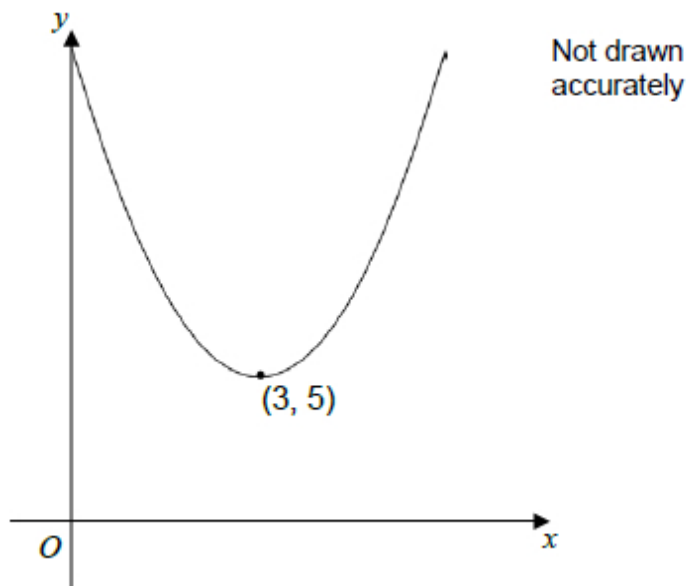
(a) Write $x^2 - 10x + 29$ in the form $(x - a)^2 + b$

Answer _____

(2)

(b) A sketch of $y = x^2 + cx + d$ is shown.

The turning point is (3, 5)



Work out the values of c and d .

$c =$ _____ $d =$ _____

(3)

(Total 5 marks)

