

## Topic 15 Quadratics 1 (Pre-TT) [36]

1.

Solve the equation  $y^2 + 5y = 0$

(Total 3 marks)

2.

(a) Factorise  $p^2 + 7p + 12$

(2)

(b) Solve the equation  $p^2 + 7p + 12 = 0$

(1)

(Total 3 marks)

3.

(a) Show that one solution of the equation  $x^3 + 20x - 73 = 0$  lies between 2 and 3.

(2)

(b) Find this solution correct to 1 decimal place.

(4)

(Total 6 marks)

4.

Solve the equation  $y^2 - 4y - 45 = 0$

(Total 3 marks)

5.

(a) Show that one solution of the equation  $x^3 + 2x = 80$  lies between 4 and 5.

(2)

(b) Find this solution correct to 2 decimal places.

(5)

(Total 7 marks)

6.

Factorise fully  $2x^2 - 50y^2$

(3)

(Total 3 marks)

7.

Mandy is  $x$  years old.

Her brother is 5 years older than Mandy.

The product of their ages is 84.

(a) Show that  $x^2 + 5x - 84 = 0$

(1)

(b) Solve  $x^2 + 5x - 84 = 0$

Do not use a trial and improvement method.

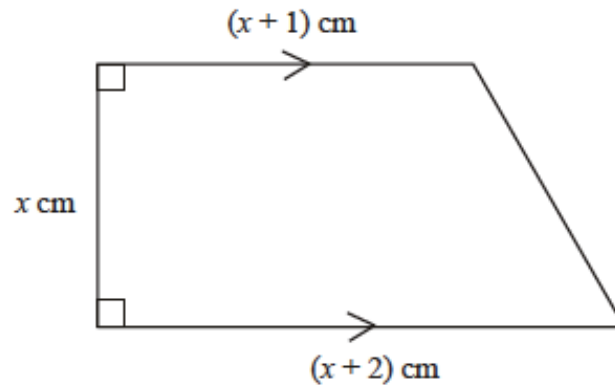
(3)

(Total 4 marks)

8.

A trapezium has parallel sides of length  $(x + 1)$  cm and  $(x + 2)$  cm.  
The perpendicular distance between the parallel sides is  $x$  cm.  
The area of the trapezium is  $10 \text{ cm}^2$ .

Not drawn accurately



Find the value of  $x$ .

(Total 5 marks)

9.

Factorise  $3x^2 + 14x + 8$

[2 marks]