

ADE and ACB are similar triangles.

Find the length CD.

$$4 \times 4 = 16$$

$$16 - 4 = 12 \text{ cm}$$

The speed of a particle is 4.2×10^5 m/s

How far does it travel in a day?

$$\begin{array}{l} d \\ s \quad t \end{array} \quad 86400 \text{ s in} \\ \text{a day}$$

Give your answer in kilometres and in standard form.

$$4.2 \times 10^5 \times 86400$$

$$3.6288 \times 10^{10} \text{ m}$$

$$3.6288 \times 10^7 \text{ km}$$

Show that the line $y = 3x + 1$ is perpendicular to the line $x + 3y + 9 = 0$

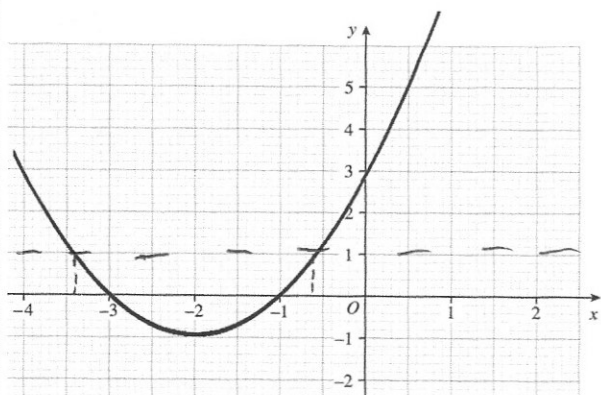
$$3y = -x - 9$$

$$y = -\frac{1}{3}x - 3$$

$$3 \times -\frac{1}{3} = -1$$

\therefore they are perpendicular

Shown below is the graph of $y = x^2 + 4x + 3$



Write down the roots of $x^2 + 4x + 3 = 0$

$$x = -1 \text{ or } x = -3$$

Estimate the roots of $x^2 + 4x + 3 = 1$

$$x = -0.6$$

or

$$x = -3.4$$