13th March

Evaluate

$$(8x^2)^{\frac{2}{3}}$$

Given

$$\frac{dy}{dx} = x^3 + 4x - 1$$

Find

$$\frac{d^2y}{dx^2}$$

The equation $kx^2 - 4x + k = 3$
has no real roots.

Find the possible range of values of k

A polygon has 20 sides. The sides have lengths that form an arithmetic progression with a common difference of d.

The length of the 10th side is 5.04cm
The perimeter of the shape is 104cm

Find a and d.

Solve

$$x^4 = 3x^2 + 28$$