

11th September

Use factor theorem to show that $(2x - 1)$ is a factor of

$$2x^3 - 3x^2 - 3x + 2 = f(x)$$

$$f\left(\frac{1}{2}\right) = \frac{1}{4} - \frac{3}{4} - \frac{3}{2} + 2 = 0$$

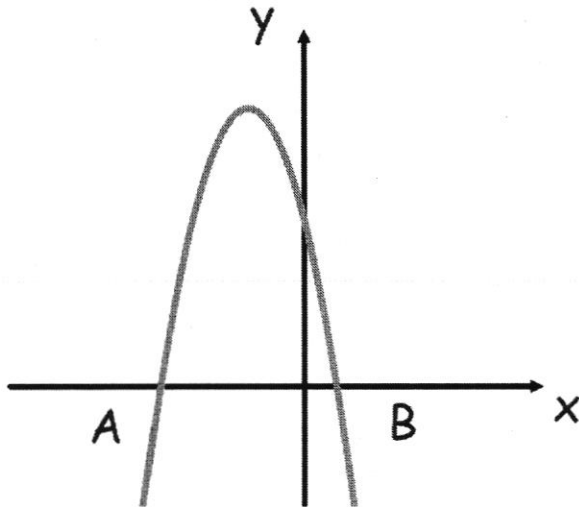
\Rightarrow $2x - 1$ factor.

A pizza parlour sells 11 different pizza toppings.

Grace orders a pizza with 2 different pizza toppings.

How many different pizzas can Grace order?

$$\frac{11 \times 10}{2} = \underline{55} \quad [{}^{11}C_2]$$



Shown is a graph $y = f(x)$ where $f(x)$ is a quadratic function.
The coordinates of point A are $(-4, 0)$
The maximum point is $(-1.2, 5.6)$

Write down the coordinates of point B

$$\underline{(1.6, 0)}$$

The equation $f(x) = k$ has exactly one solution.

Write down the value of k

$$\underline{k = 5.6}$$

$$y = \frac{10x^5 + x^9}{2x^3}$$

Work out the value of $\frac{d^2y}{dx^2}$ when $x = 2$

$$y = 5x^2 + \frac{1}{2}x^6$$

$$\frac{dy}{dx} = 10x + 3x^5$$

$$\frac{d^2y}{dx^2} = 10 + 15x^4$$

$$= \underline{250} \text{ at } x = 2.$$