

4th April



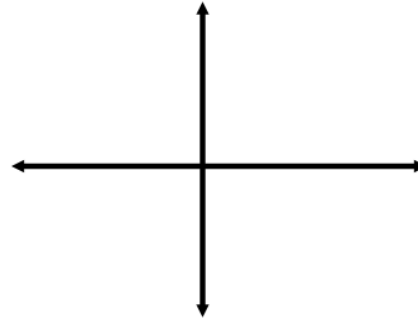
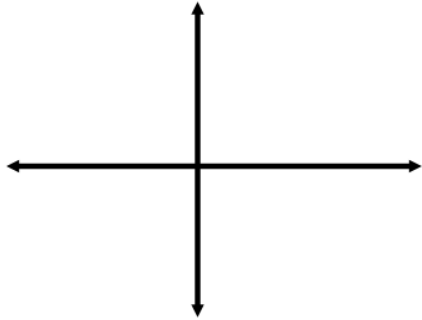
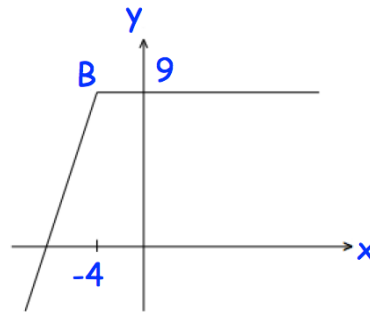
Corbettmaths

Shown is a sketch of a curve with equation $y = f(x)$

Sketch

(a) $y = f(-x)$

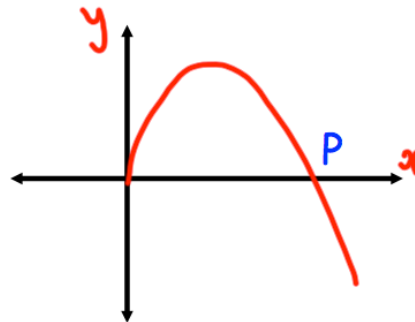
(b) $y = -f(x)$



Shown is the curve

$$y = 27x - x^{\frac{5}{2}} \quad x \geq 0$$

The curve meets the x-axis at the origin and at P.



Find the coordinates of P

Find the gradient of the tangent to the curve at P.

Prove

$$S_n = \frac{n}{2} [2a + (n-1)d]$$