

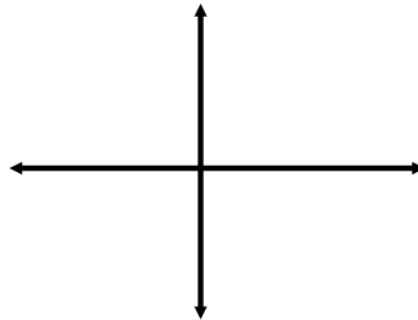
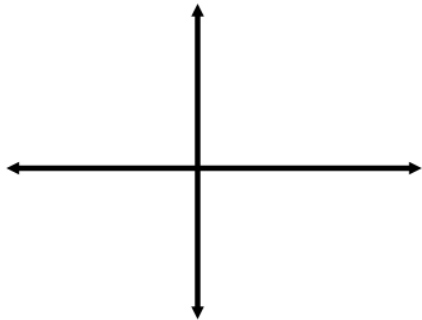
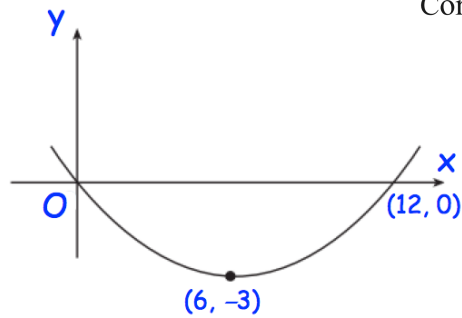
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Corbettmaths

Shown is the graph of the function
 $y = f(x)$

Sketch

(a) $f(-x)$ (b) $f(\frac{1}{2}x)$ 

The gradient of a curve is given by

$$\frac{dy}{dx} = \frac{1}{2}x^{-\frac{1}{2}} + 3$$

The curve passes through (9, 31).

Find the equation of the curve

The points A and B have
 coordinates $(-3, -5)$ and $(1, 7)$

Find the equation of the line that is
 perpendicular to AB and passing
 through the midpoint of AB

In an arithmetic progression, the
 sum of the first ten terms is 380.
 The sum of the next ten terms is
 780.

Find a and d.