

14th July



Corbettmaths

$$f(x) = \frac{4x}{9} - 8$$

$$y = \frac{4x}{9} - 8$$

Find

$$f^{-1}(-10)$$

$$y + 8 = \frac{4x}{9}$$

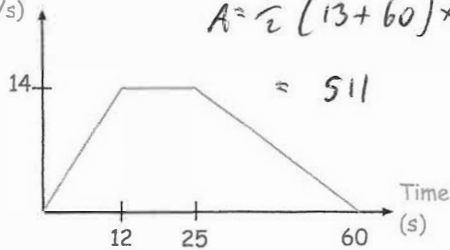
$$4x = 9y + 72$$

$$x = \frac{9y + 72}{4}$$

$$f^{-1}(x) = \frac{9x + 72}{4}$$

$$f^{-1}(-10) = \frac{-90 + 72}{4}$$

$$= -4.5$$

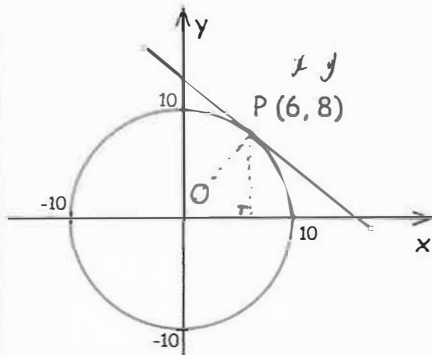
Speed
(m/s)

$$A = \frac{1}{2} (13 + 60) \times 14$$

$$= 511$$

The graph shows the speed of a bicycle between two houses. Calculate the distance between the houses.

511m



Write down the equation of the circle

$$x^2 + y^2 = 10^2$$

or

$$x^2 + y^2 = 100$$

Here is a circle, centre O, and the tangent to the circle at the point (6, 8).

$$\text{gradient of } OP = \frac{4}{3}$$

$$\text{gradient of tangent} = -\frac{3}{4}$$

Find the equation of the tangent at the point P.

$$y = -\frac{3}{4}x + c$$

$$8 = -\frac{9}{2} + c$$

$$c = 12.5$$

$$y = -\frac{3}{4}x + 12.5$$

Work out

$$27^{-\frac{2}{3}} \div 0.25$$

$$\frac{1}{9} \div \frac{25}{100} = \frac{11}{25}$$