

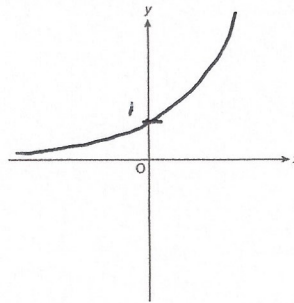
9th October



Corbettmaths

Sketch

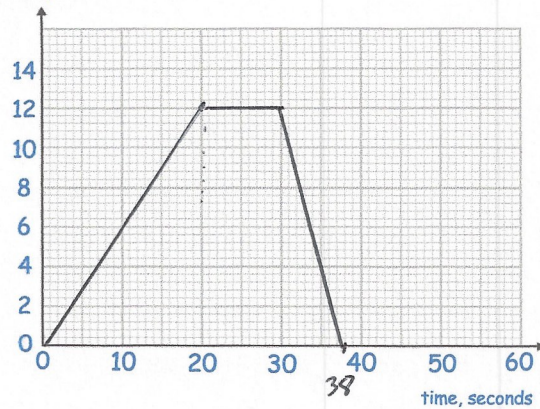
$$y = 2^x$$



A remote control car drives in a straight line.

It starts from rest and travels with constant acceleration for 20 seconds reaching a velocity of 12m/s.  
It then travels at a constant speed for 10 seconds.  
It then slows down with constant deceleration of 1.5m/s<sup>2</sup>.

Velocity, m/s



Draw a velocity-time graph and work out the total distance travelled.

$$\frac{1}{2}(a+b)h$$

$$\frac{1}{2}(38+10) \times 12$$

$$288m$$

The line AB has equation  $4x + 3y = 9$

Find an equation of the line perpendicular to the line AB that passes through the point  $(-3, -1)$

$$4x + 3y = 9$$

$$3y = -4x + 9$$

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

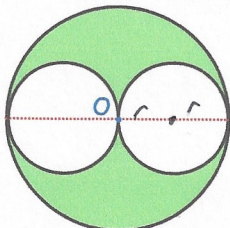
~~$4x + 3y = 9$~~

$$m = \frac{3}{4} \quad y = \frac{3}{4}x + \frac{5}{4}$$

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

$$-1 = \frac{3}{4}(-3) + c$$

$$c = 1.25$$



White circles:  $\pi r^2$

green circle:  $\pi (2r)^2$

$$= 4\pi r^2$$

$$\frac{4\pi r^2 - 2\pi r^2}{4\pi r^2} \times 100$$

Two identical small circles are drawn inside a large circle.

What percentage of the large circle is shaded?

50%