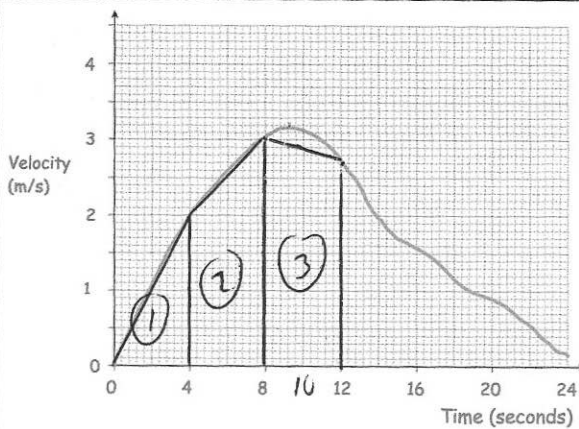


11th June



Corbettmaths



After how many seconds was the acceleration zero?

9.2 seconds

Here is a velocity-time graph of a particle for 24 seconds

(1)  $\frac{1}{2} \times 4 \times 2 = 4 \text{ m}$   
 (2)  $\frac{1}{2} (2 + 3) \times 4 = 10 \text{ m}$

Work out an estimate of the distance travelled in the first 12 seconds?

(3)  $\frac{1}{2} (3 + 2.75) \times 4$   
 $= 13.5 \text{ m}$   
27.5 m

$f(x) = \frac{3x}{5} + 1$

Find

$f^{-1}(350)$

$y = \frac{3x}{5} + 1$   
 $y - 1 = \frac{3x}{5}$   
 $5y - 5 = 3x$

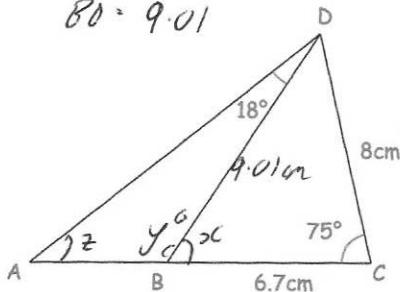
$x = \frac{5y - 5}{3}$

$f^{-1}(x) = \frac{5x - 5}{3}$

$\frac{5(350) - 5}{3} = 581.6$

ACD is a triangle.  
 B is a point on AC  
 Work out the area of triangle ABD.  
 Give your answer correct to 3 significant figures.

$BD^2 = 8^2 + 6.7^2 - 2 \times 8 \times 6.7 \cos 75^\circ$   
 $BD^2 = 81.14 \dots$   
 $BD = 9.01$



$\frac{\sin x}{8} = \frac{\sin 75^\circ}{9.008 \dots}$

$x = 59.0744^\circ$

$y = 120.9256^\circ$

$z = 41.0744^\circ$

$\frac{AD}{\sin 120.9256} = \frac{9.008 \dots}{\sin 41.0744}$

$AD = 11.76091 \dots$

Area =  $\frac{1}{2} \times 9.008 \times 11.76091 \dots \times \sin 18^\circ$   
 $= 16.37 \text{ cm}^2$   
 $= 16.4 \text{ cm}^2$