

19th January

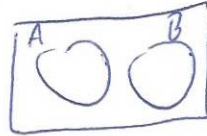


Corbettmaths

The events A and B are mutually exclusive.

$P(A) = 0.5$

$P(B) = 0.4$



Find  $P(A \cup B)$

$P(A \cup B) = 0.9$

Write in the form  $a\sqrt{b}$ , where a and b are integers to be found.

$$\frac{24}{\sqrt{6}} \times \sqrt{6} = \frac{24\sqrt{6}}{6}$$

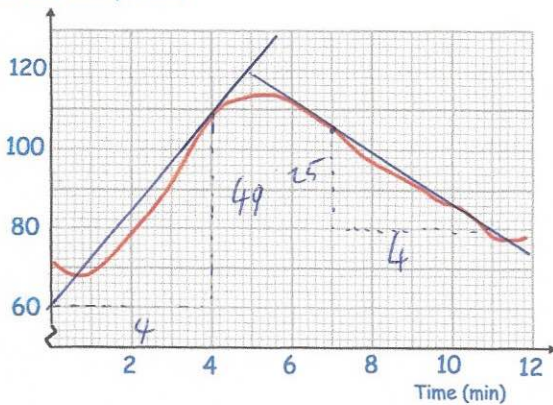
$4\sqrt{6}$

Prove algebraically that the sum of the squares of any two odd numbers is always even.

$$\begin{aligned} &(2n+1)^2 + (2m+1)^2 \\ &4n^2 + 4n + 1 + 4m^2 + 4m + 1 \\ &= 4n^2 + 4n + 4m^2 + 4m + 2 \end{aligned}$$

$2(2n^2 + 2n + 2m^2 + 2m + 1)$   
 $\therefore$  even

Pulse (beats per min)



Work out the rate at which the pulse is increasing at four minutes. Include units.

$12.25$  beats per min per min

Work out the rate at which the pulse is decreasing at seven minutes. Include units.

$6.25$  beats per min per min