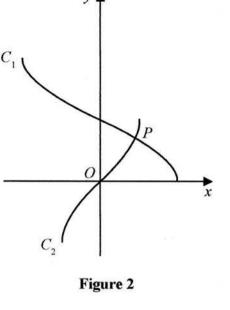
15.



the curve C_1 with equation $y = \arccos \frac{1}{2}x$

the curve C_2 with equation $y = \arcsin x$ The curves meet at the point P as shown in Figure 2.

(a) Show that at P

At intersection, $\frac{\sin y}{\cos y} = \frac{x}{\pm x} = 2$

Figure 2 shows a sketch of

(b) Hence, or otherwise, find the exact x coordinate of P

(a) y = arccos(\(\frac{1}{2}\times) \Rightarrow \frac{1}{2}\times = \cos y

y= arcsin x => x = siny

$$\tan y = 2$$

sing identities $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 4 \Rightarrow sec'y - 1 = 4$ $tan'y = 5 \Rightarrow cosy = 5$ $tan'y = 4 \Rightarrow sec'y = 5$ $tan'y = 5 \Rightarrow cosy = 5$

 $\Rightarrow x = \frac{2}{5}$ (2 murks)



(2)

(2)