11. Let AB=2r .'.Area of Semi circle = $\frac{(\pi r^2)}{2}$ and Area of Triangle = $(\frac{1}{2})xABxOC=(\frac{1}{2})x\,2rxr=(\frac{1}{2})x\,2r^2$

Probability of the point comes inside the triangle=Area of the triangle/Area of the semi circle

= $\frac{(\frac{1}{2}x2r^2)}{(\frac{(\pi r^2)}{2})}=\frac{(2r^2)}{(\pi r^2)}$ = $\frac{2}{\pi}=0.64$ OR



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Probability of getting White ball from first Urn= $\frac{7}{12}$

Probability of getting White ball from second Urn= $\frac{8}{14}$

Probability of getting atleast one white ball from both urns = $\frac{7}{12}x\frac{8}{14}=\frac{1}{3}$

12. A_____1___B_____2_____C

Given that AB:AC =1:3 .'. BC=2 or AB:BC=1:2
.'. B divides the line between the points A(-2,1) and C(10,10) in the ratio 1:2

b)Coordinates of B are $(\frac{1x10+2x-2}{2+1},\frac{1x10+2x1}{2+1})=(\frac{(10-4)}{3},\frac{(10+2)}{3})=(2,4)$

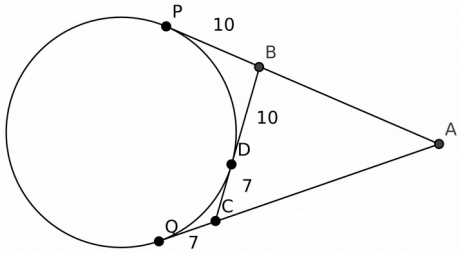
a)Length of AB = $\sqrt{(4^2+3^2)}=5$

slope of line AB= $\frac{3}{4}$ If (x,Y) is a point on the line, slope of line joining (x,y) and (2,4) is = $\frac{(y-4)}{(x-2)}=\frac{3}{4}$ .'. 4y-16=3x-6

c)Equation of line AB is 3x-4y+10=0



13.




a)BC=BD+DC=10+7=**17 cms** (Since Length of tangents are equal)
AB+AC+BC=70 .'. AB+AC+17=70
AB+AC=70-17= 53 .'. AC = 53-AB ----(1)
AP=AQ .'. AB+BP=AC+QC .'. AB+10=AC+QC
AB+10=53-AB+QC by using (1)
2AB=43+7=50 .'. AB=**25 cms** AC = 53-AB=53-25=**28 cms**

14. Let Speed of the Motorcycle from home to city be x km/hr

$\frac{5}{x}+\frac{5}{(x+20)}=\frac{10}{48}$ .'. $5(\frac{1}{x}+\frac{1}{(x+20)})=\frac{10}{48}$ .'. $\frac{1}{x}+\frac{1}{(x+20)}=\frac{10}{(48x5)}=\frac{1}{24}$

.'. $x+20+x=(\frac{1}{24})\times x(x+20).'.(2x+20)x\,24=x^2+20x$ .'. $x^2+20x-48x-480=0$

.'. $x^2-28x-480=0.'.x^2-28x+196=480+196=676.'.(x-14)^2=676.'.(x-14)=\pm26$