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MTH103

2

1. Determine the value of x so that (A=2i+xj+k) and (B=4i-2j-2k) are perpendicular. -1 --->> 3 4 -2 2. Which of the following defined a unit vector a in the direction of a --->> \(\hat{a}=\frac{a}{|a|}\)  $\( hat{a}=a+|a|\)$  $\( hat{a}=a|a| \)$  $\( hat{a}=\frac{|a|}{a}\)$ 3. Evaluate the sum of the vectors \(\bar{AK}+\bar{KL}+\bar{LP}+\bar{PQ}\)  $\(\bar\{KP\}\)$ --->> \(\bar{AQ}\)  $\(\bar\{LK\}\)$  $\(\bar{AP}\)$ 4. Find the points of intersection of the circle  $((x-3)^2+(y-4)^2=25)$  and the locus  $(x+y-4)^2=25$ 12=0\). --->> (3, 9) and (8,4) (9, 3) and (4, 8) (3, 8) and (9, 4) (8, 4) and (9, 3) 5. Given (r = -i+2j+2k), find the magnitude of (r)

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5
   --->> 3
6. Determine the x and y intercepts of the ellipse equation (4y^2+9x^2=36)
       (3,6)
       (6,2)
   --->> (2,3)
       (3,2)
7. Determine (a-b-c), if (a=5i-2j), (b=3i+3j) and (c=4i-j)
       (-2i+4j)
       \(2i-4j\)
   --->> \(-2i-4j\)
       (2i+4j)
8. Obtain the equation of the line with slope and passing through the point (-3, 4).
       (4y-3x+1=0)
       (3y+4x+7=0)
       (4y-2x+12=0)
   --->> (3y+2x-6=0)
9. The direction of a quantity is indicated by?
       Line
       Point
   --->> Arrow head
       Angle
```

10. The distance between the centre of a circle and its circumference is called?

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--->> Radius

Equator

Centre line

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