

MTH101 TMA4 List of Questions*Latex formatted questions may not properly render***Q1 Find the equation of the circle centre(-1, 2) and radius 4**

- ☐ $[y^2 + x^2 + 2x - 4y - 16 = 0]$
☐ $[y^2 + x^2 + 2x + 4y - 11 = 0]$
☐ $[y^2 + x^2 - 2x - 4y - 11 = 0]$
☐ $[y^2 + x^2 + 2x - 4y - 11 = 0]$

Q2 Find the distance between points A(-3, 4) and B(2, 5)

- ☐ $[\sqrt{26}]$
☐ $[\sqrt{25}]$
☐ $[\sqrt{35}]$
☐ $[\sqrt{30}]$

Q3 Find the equation of the circle center (2 , -3) and radius 4

- ☐ $[y^2 - x^2 - 4x + 6y - 3 = 0]$
☐ $[y^2 + x^2 - 14x + 6y - 3 = 0]$
☐ $[y^2 + x^2 - 4x + 6y - 3 = 0]$
☐ $[y^2 + x^2 - 4x + 6y - 13 = 0]$

Q4 Express $5 + 12i$ in a polar form, i.e in form of $[Z = r(\cos \theta + i \sin \theta)]$

- ☐ $Z = 13(\cos 45 + i \sin 45)$
☐ $Z = 7(\cos 45 + i \sin 45)$
☐ $Z = 15(\cos 45 + i \sin 45)$
☐ $Z = 13(\cos 45 - i \sin 45)$

Q5 As in no 5 above, find $[Z_1 Z_2]$.

- ☐ $41 + 15i$
☐ $29 + 15i$
☐ $29 - 15i$
☐ $15 + 29i$

Q6 Evaluate $[\frac{3n^2 - 5n + 4}{4n^2 + 7n + 1}]$ as $n \rightarrow \infty$

- ☐ $[\frac{3}{7}]$
☐ $[\frac{-5n}{7}]$
☐ $[\frac{3}{7n}]$
☐ $[\frac{3}{7}]$

Q7 Find the number of terms in an Arithmetic Progression whose first term is 5 common difference 3 and sum is 55

- ☐ -8
☐ 5
☐ 7
☐ 9

Q8 Find the solution set of $[\frac{x+2}{x+1} = 1]$

- ☐ $[x \leq 2, x \geq -1]$
☐ $[x \leq -2, x \geq 1]$

- ☐ $[x \leqslant 2, x \geqslant 1]$
- ☐ $[x \leqslant -2, x \geqslant -1]$

Q9 Evaluate $\left[\frac{3n^2 - 14n + 6}{n^2 + 7n + 2} \right]$

- ☐ 4
- ☐ 5
- ☐ 3
- ☐ 6

Q10 Find the limiting value of $\left[\frac{7n + 5}{2n - 3} \right]$ **as** $n \rightarrow \infty$

- ☐ $\frac{3}{5}$
- ☐ $\frac{7}{2}$
- ☐ $\frac{7n}{2}$
- ☐ $\frac{7}{2}$