Q 1. Find the third proportional to $\frac{x}{y} + \frac{y}{x}$ and $\sqrt{x^2 + y^2}$

Q 2. If $\begin{bmatrix} 1 & 4 \\ -2 & 3 \end{bmatrix} + 2M = 3\begin{bmatrix} 3 & 2 \\ 0 & -3 \end{bmatrix}$, find the matrix M.

Q 3. Prove that the perpendicular to a chord, from the centre of the circle, bisects the chord.

Q 4. Prove that

$$1 - \frac{cos^2 A}{1 + \sin A} = \sin A$$

Q 5. Eight metallic spheres; each of radius 2 mm, are melted and cast into a single sphere. Calculate the radius of the new sphere.

Q 6. The diameter of a cycle wheel is 28 cm. How many revolutions will it make in moving 13.2 km ?

Question	Total Marks	Marks Obtained
Q 1	3	
Q 2	3	
Q 3	4	
Q 4	4	
Q 5	3	
Q 6	3	

Full Marks	**20**
Marks Obtained	
Percentage	
Remarks	