

PC11

Exact Values of Basic Trigonometric Ratios

1. Calculating exact values of basic trigonometric ratios given coordinates of a point on the terminal arm of an angle in standard position.

Ex.1: Given that P (-2,3) is a point on the terminal arm of angle θ , determine the exact values of the basic trigonometric ratios.

Your Turn 1: Given that P (-5,-7) is a point on the terminal arm of angle θ , determine the exact values of the basic trigonometric ratios.

2. Calculating the exact values of the basic trigonometric ratios given one of the 3 ratios and possibly information about the quadrant of the terminal arm.

Ex.2: Given that $\cos\theta = \frac{3}{\sqrt{19}}$ and θ has its terminal arm in the fourth quadrant, find the values of the remaining trigonometric ratios. **Include a labeled diagram.**

Your Turn2: Given that $\tan\theta = -\frac{\sqrt{2}}{\sqrt{5}}$ and θ has its terminal arm in the second quadrant, find the values of the remaining trigonometric ratios. **Include a labeled diagram.**

Your Turn3: Given that $\sin\theta = -\frac{1}{7}$ and θ has its terminal arm in the third quadrant, find the values of the remaining trigonometric ratios. **Include a labeled diagram.**

3. Determining exact values of the basic trigonometric ratios without a calculator.

Ex.3: Determine $\sin 315^\circ$. **Include a labeled diagram.**

Ex.4: Determine $\tan 210^\circ$. **Include a labeled diagram.**

Your Turn 4: Determine $\cos - 330^\circ$. Include a labeled diagram.

Your Turn 5: Determine $\tan 150^\circ$. Include a labeled diagram.