

Name: _____

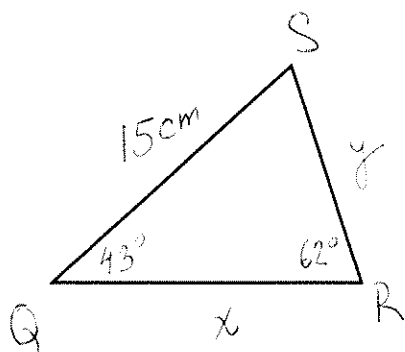
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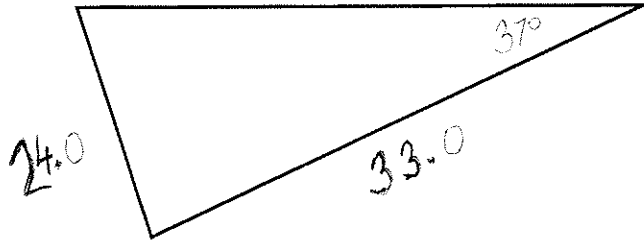
- [4] 1. Draw and label $\theta = 95^\circ$ in standard position. In the same diagram draw the reference angle of θ .
- Label the reference angle using an appropriate letter and notation
 - Show a calculation that determines the degree measure of the reference angle
- [4] 2. Given that $\cos\theta = -\frac{2}{\sqrt{29}}$, find the exact values of the other two trigonometric ratios of the angle θ given that the terminal arm of angle theta is in the third quadrant. **Include a diagram.**

- [4] 3. Without using a calculator, determine the exact value of $\sin(-150^\circ)$. Include a diagram in your solution. You may use a calculator to check your answer but your work needs to show sufficient evidence that you arrived to your answer without using a calculator.

- [4] 4. Find the side length for the indicated unknowns. Round to the nearest hundredth where applicable.



- [4] 5. Determine the angle measure for all unknown interior angles. Round to the nearest degree.



Bonus: A hot air balloon is flying above a mall. Elli is standing due north of the mall and can see the balloon at an angle of inclination of 64° . Helmut is due south of the mall and can see the balloon at angle of inclination of 49° . The horizontal distance between Helmut and Elli is 500m. Determine the distance that the hot air balloon is from Elli. Include a labeled diagram in your solution.