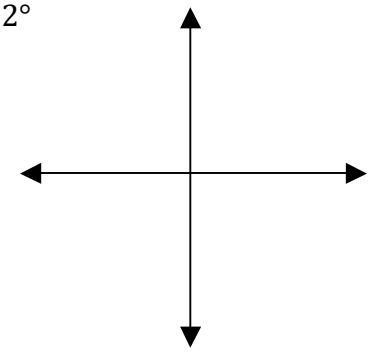
Name:_____ **TA:**_____

Math 11 Pre-Calculus LG 3 Ver B **/18**

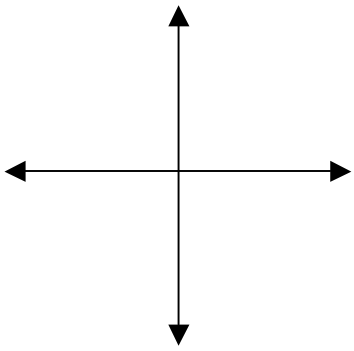
1. Without measuring, sketch the following angles in standard position. For each angle, state the reference angle. *(2 marks)*

a) $162°$



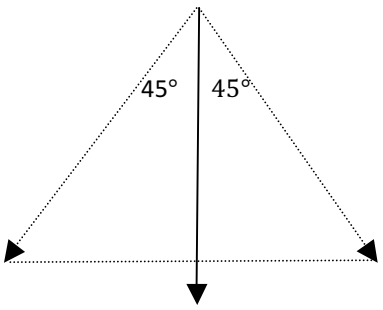
Reference angle:_____

b) $310°$



Reference angle:_____

2. A large grandfather clock has a pendulum that is 3m long. The pendulum swings $45°$ to the left and right of vertical. What *horizontal* distance does the tip of the arm move in one complete swing? Give an *exact* answer. *(2 marks)*



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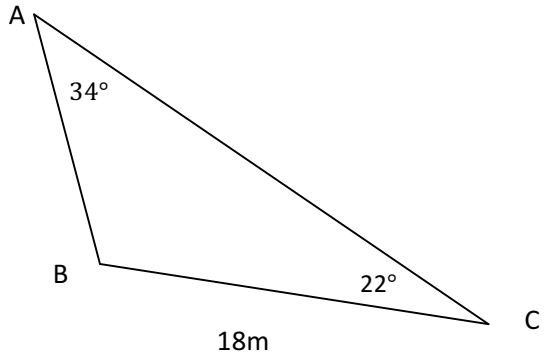
3. Determine the exact values of sin θ, cos θ, and tan θ if the terminal arm of an angle in standard position passes through the point (-5,4). *(3 marks)*

4. Solve for θ if $\cos\theta = \frac{\sqrt{3}}{2}$, where $0° \leq \theta < 360°$. *(2 marks)*

5. Find the length of side AC. *(2 marks)*



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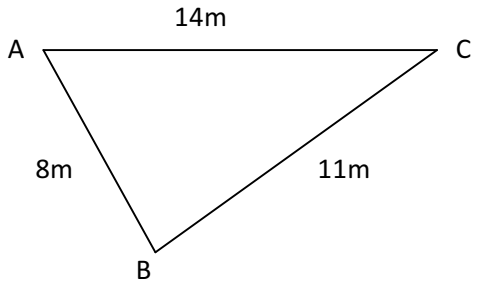
6. Determine the measure of angle A to 2 decimal places. *(2 marks)*



7. A radio tracking station locates a fishing trawler 3.4 nautical miles away, and a floating bathtub 2.8 nautical miles away. At the station, the angle between the lines of sight to the two vessels is 85°. How far apart are the vessels? *(2 marks)*

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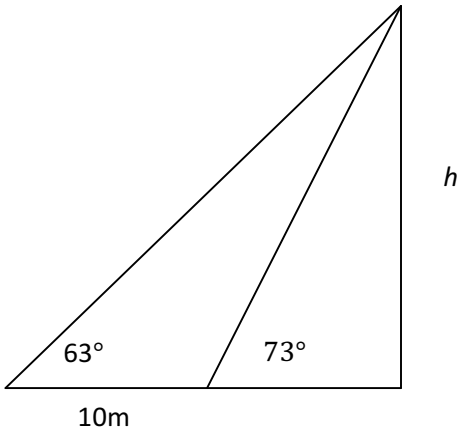
8. Kevin wanted to find the height of the school flag pole. He measured the angle to the top of pole to be $63°$. He then walked 10 m closer to the pole and measured an angle of 73°. What is the height of the flag pole? Give your answer to 2 decimal places. *(3 marks)*



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