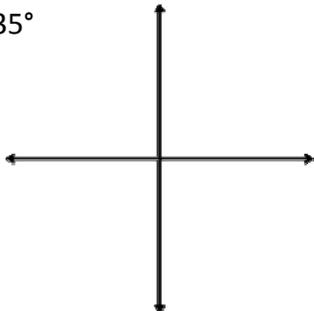


Math Precalc 20
Chapter 2 Review

Name _____

1. Sketch each angle in standard position. State which quadrant the angle terminates in and the measure of the reference angle. (2 marks each = 6 marks)

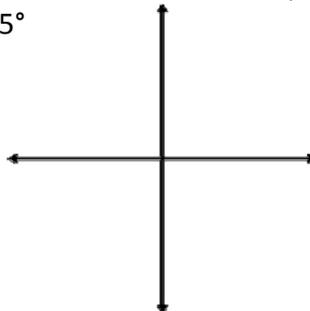
a. 35°



quadrant _____

$\theta_R =$ _____

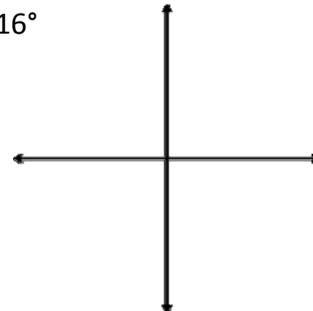
b) 165°



quadrant _____

$\theta_R =$ _____

c) 216°

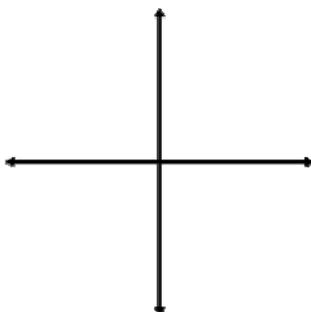


quadrant _____

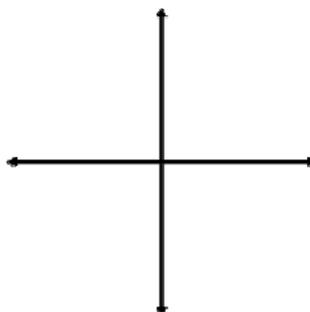
$\theta_R =$ _____

2. Determine the exact value of the following ratios without using your calculator. (2 marks each = 6 marks)

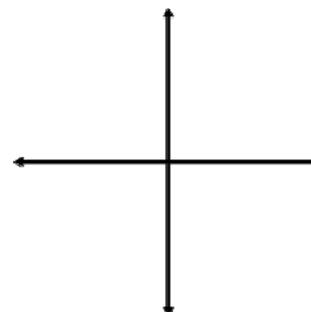
a. $\cos 180^\circ =$ _____



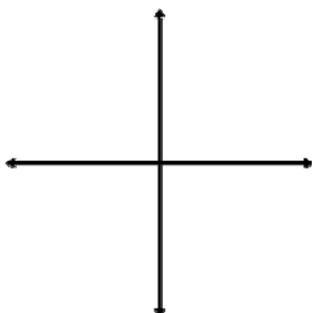
b. $\tan 210^\circ =$ _____



c. $\sin 315^\circ =$ _____

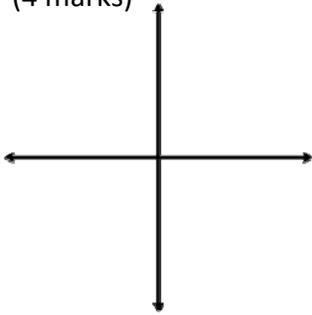


3. A point $P(-4,5)$ lies on the terminal arm of an angle θ in standard position. Determine the exact trigonometric ratios for $\sin \theta$, $\cos \theta$ and $\tan \theta$. (4 marks)



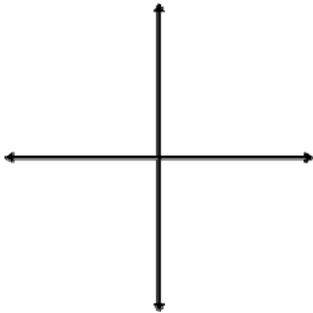
4. Suppose θ is an angle in standard position with a terminal arm in quadrant II and $\sin \theta = \frac{15}{17}$. Determine the exact value of the other two primary trigonometric ratios.

(4 marks)

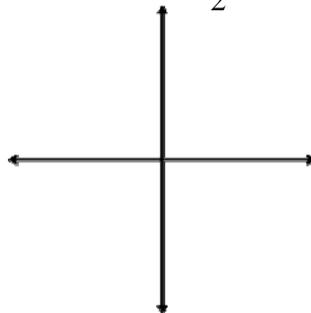


5. Solve for θ . $0^\circ \leq \theta \leq 360^\circ$. Round θ to the nearest tenth of a degree.
(3 marks each = 6 marks)

a. $\cos \theta = 0.5877$

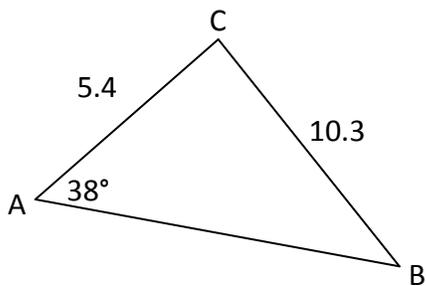


b. $\sin \theta = -\frac{\sqrt{3}}{2}$

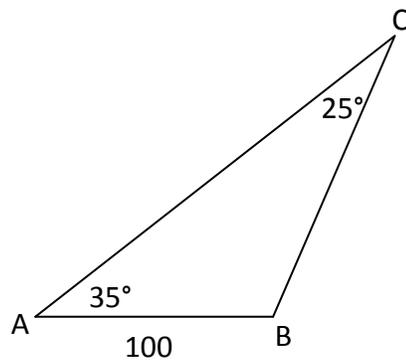


6. Find the indicated side or angle. (3 marks each = 6 marks)

a. $\angle B = \underline{\hspace{2cm}}$

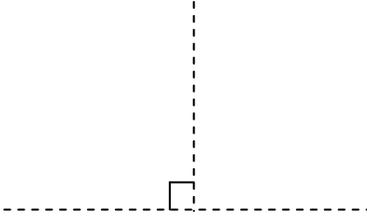


b. side b = $\underline{\hspace{2cm}}$

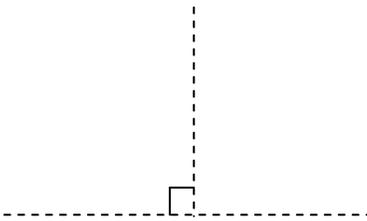


7. Determine how many ABC triangles satisfy the following conditions.
 (2 marks each = 4 marks)

a. $\angle A = 69^\circ$, $a = 10.1$ cm, and $b = 11.4$ cm

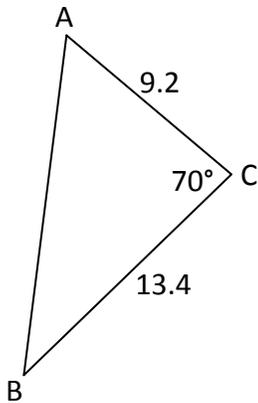


b. $\angle A = 28^\circ$, $a = 4$, and $b = 6$

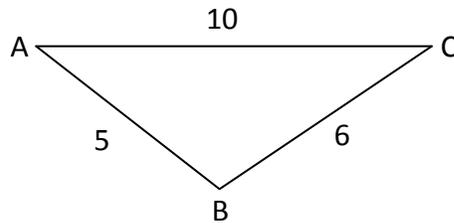


8. Find the indicated side or angle. (2 marks each = 4 marks)

a. side $c =$ _____



b. $\angle A =$ _____



9. Determine the unknown side and angles in $\triangle ABC$, where $\angle A = 41^\circ$, $a = 12.3$ cm and $b = 15.6$ cm. (Note: There are two solutions!) (5 marks)

10. Do **one** of the following problems only. (5 marks)

A) Chang is participating in a charity bicycle road race. The route starts at Centreville and travels east for 13 km to Eastdale. He then makes a 135° turn and heads northwest for another 18 km, arriving at Northcote. The final leg of the race returns to Centreville. What is the total length of the race, to the nearest tenth of a kilometre?

OR

B) A salvage vessel locates a sunken ship directly below it. The angle of depression from the salvage vessel to one end of the ship is 29.3° and to the other end is 47.5° . If the length of the ship is 143 m, determine how far beneath the water's surface it is, to the nearest metre.