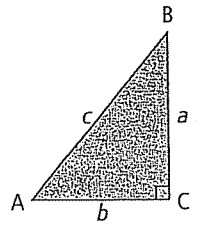
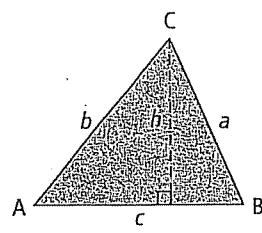


Chapter 2 Skills Organizer B

Solving a triangle means finding the measure of all unknown sides and angles. Complete the chart with all relevant formulas to solve any triangle.

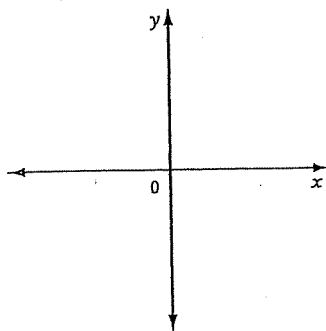
Triangle	Known Info	How to Calculate Side	How to Calculate Angle
 <p>right triangle</p>	$\angle C = 90^\circ$	$a^2 =$	$\sin A = \frac{a}{c}$ $\sin B = \frac{b}{c}$
		$b^2 =$	$\cos A =$ $\cos B =$
		$c^2 = a^2 + b^2$	$\tan A =$ $\tan B =$
 <p>oblique triangle</p>	SSS or SAS	$a^2 = b^2 + c^2 - 2bc \cos A$	$\cos A = \frac{a^2 - b^2 - c^2}{-2bc}$
		$b^2 =$	$\cos B =$
		$c^2 =$	$\cos C =$
	ASA or SSA*	$\frac{a}{\sin A} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$\frac{\sin A}{a} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
* Notes about the ambiguous case:			
		Acute Angle	Obtuse Angle
0 triangles			
1 triangle			
2 triangles			

Chapter 2 Review

2.1 Angles in Standard Position, pages 56–67

1. Sketch each angle in standard position. State which quadrant the angle terminates in and the measure of the reference angle.

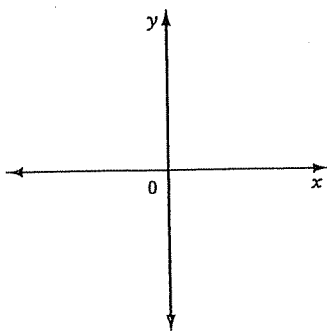
a) 35°



quadrant _____

$\theta_R =$ _____

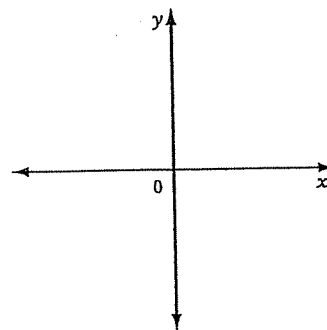
b) 165°



quadrant _____

$\theta_R =$ _____

c) 216°



quadrant _____

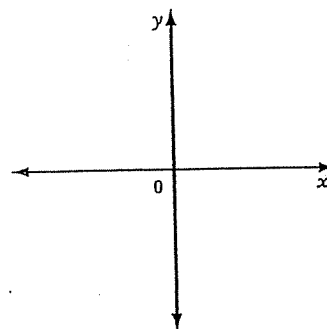
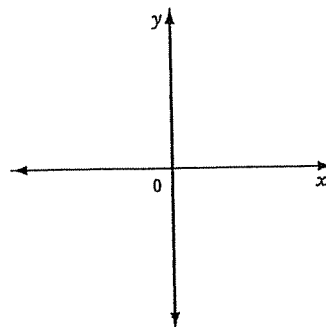
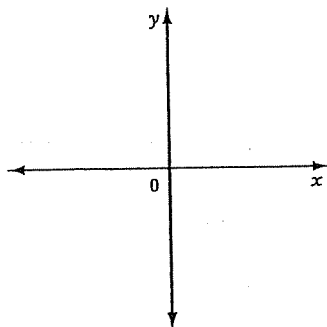
$\theta_R =$ _____

2. Determine the exact value of the following ratios without using technology.

a) $\cos 120^\circ =$ _____

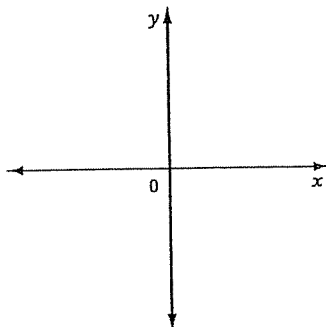
b) $\tan 210^\circ =$ _____

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

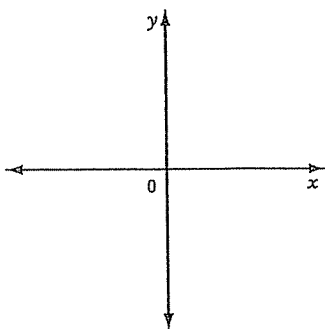


2.2 Trigonometric Ratios of Any Angle, pages 68–79

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 $\tan \theta$.

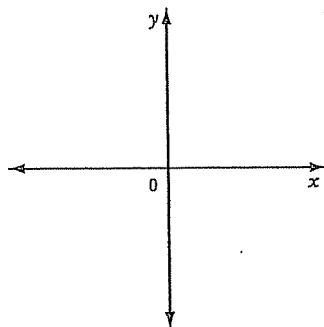


4. Suppose θ is an angle in standard position with terminal arm in quadrant II and $\sin \theta = \frac{15}{17}$. Determine the exact values of the other two primary trigonometric ratios.

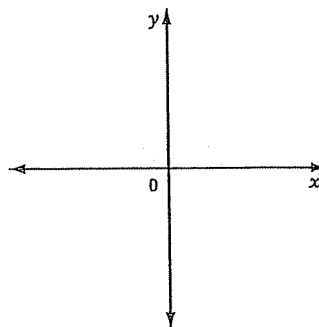


5. Solve for θ , $0^\circ \leq \theta < 360^\circ$.

a) $\cos \theta = 0.5877$



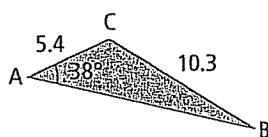
b) $\sin \theta = -\frac{\sqrt{3}}{2}$



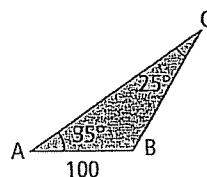
2.3 The Sine Law, pages 81–93

6. Find the indicated side or angle.

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



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



7. Determine how many $\triangle ABC$ s satisfy the following conditions.

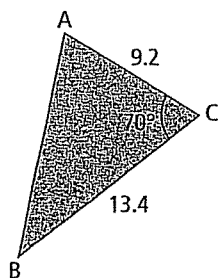
a) $\angle A = 69^\circ$, $a = 10.1$ cm, and $b = 11.4$ cm

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

2.4 The Cosine Law, pages 94–102

8. Find the indicated side or angle.

a) side $c =$ _____



b) $\angle A =$ _____

