

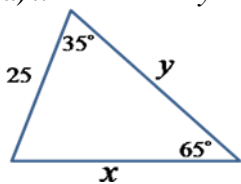
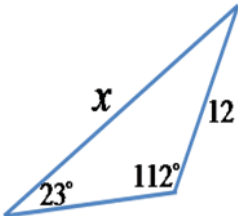
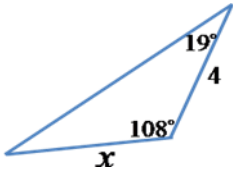
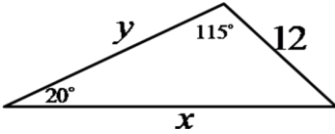
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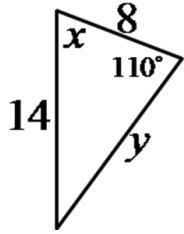
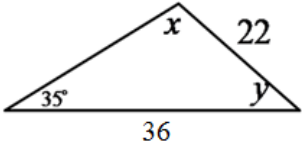
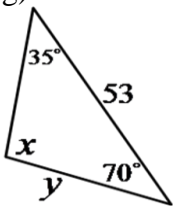
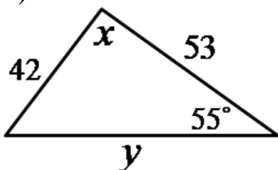
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**Pre-Calculus 11: HW 2.3 Sine Law**1. Given each equation, solve for all values of  $\theta$  where  $0 \leq \theta \leq 180^\circ$ 

a) $\sin \theta = 0.25$	b) $\sin \theta = 0.85$	c) $\sin \theta = \frac{\sqrt{3}}{2}$	d) $\sin \theta = \frac{\sqrt{2}}{2}$
e) $\sin \theta = 1.2$	f) $\sin \theta = -0.25$	g) $\sin \theta = 0$	h) $\sin \theta = 1$

2. Given each triangle, find the value of any missing side or angle “x” and “y”. Show all your work

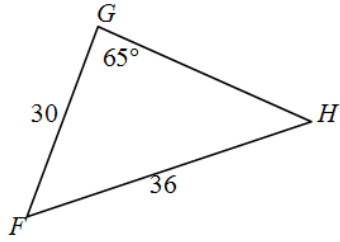
a) $x =$ $y =$ 	b) $x =$ 
c) $x =$ 	d) $x =$ $y =$ 

<p>e) <math>x =</math> <span style="margin-left: 150px;"><math>y =</math></span></p>  <p>A triangle with a vertical left side of length 14, a top side of length 8, and an interior angle of <math>110^\circ</math> between these two sides. The other two sides are labeled <math>x</math> and <math>y</math>.</p>	<p>f) <math>x =</math> <span style="margin-left: 150px;"><math>y =</math></span></p>  <p>A triangle with a horizontal bottom side of length 36, a right side of length 22, and an interior angle of <math>35^\circ</math> at the bottom-left vertex. The other two sides are labeled <math>x</math> and <math>y</math>.</p>
<p>g) <math>x =</math> <span style="margin-left: 150px;"><math>y =</math></span></p>  <p>A triangle with a left side of length 53, an interior angle of <math>35^\circ</math> at the top vertex, and an interior angle of <math>70^\circ</math> at the bottom-right vertex. The other two sides are labeled <math>x</math> and <math>y</math>.</p>	<p>h) <math>x =</math> <span style="margin-left: 150px;"><math>y =</math></span></p>  <p>A triangle with a left side of length 42, a right side of length 53, and an interior angle of <math>55^\circ</math> at the bottom-right vertex. The other two sides are labeled <math>x</math> and <math>y</math>.</p>

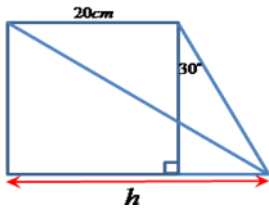
3. Given that  $a = 14\text{cm}$ ,  $b = 18\text{cm}$ , and  $\angle A = 41^\circ$ , find the area of  $\triangle ABC$ .

4. Given that  $a = 14\text{cm}$ ,  $\angle B = 70^\circ$ , and  $\angle A = 35^\circ$ , find the area of  $\triangle ABC$ .

5. Find the value of angle "F"



6. Calculate the length of "x" to 1 decimal place



7. An observer is looking at a mountain peak at an angle of elevation of  $35^\circ$ . He walks 250 meters towards the mountain and the angle of elevation to the peak is  $39^\circ$ . What is the height of the mountain?