### Lesson 9 Practice Problems

1. *Technology required.* Ramps in a parking garage need to be both steep and safe. The maximum safe incline for a ramp is 8.5 degrees. Is this ramp safe? If not, provide dimensions that would make the ramp safe.
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1. *Technology required.* $ABCD$ is a rectangle.Find the length of $AC$ and the measures of $α$ and $θ$.
* 
1. *Technology required.*Find the missing measurements.
* 
1. Select **all** the true equations:
* 
	1. $sin\left(27\right)=\frac{x}{15}$
	2. $cos\left(63\right)=\frac{y}{15}$
	3. $tan\left(27\right)=\frac{y}{x}$
	4. $sin\left(63\right)=\frac{x}{15}$
	5. $tan\left(63\right)=\frac{y}{x}$
* (From Unit 4, Lesson 8.)
1. What value of $θ$ makes this equation true? $sin\left(30\right)=cos\left(θ\right)$
	1. -30
	2. 30
	3. 60
	4. 180
* (From Unit 4, Lesson 8.)
1. A rope with a length of 3.5 meters is tied from a stake in the ground to the top of a tent. It forms a 17 degree angle with the ground. How tall is the tent?
	1. $3.5tan\left(17\right)$
	2. $3.5cos\left(17\right)$
	3. $3.5sin\left(17\right)$
	4. $\frac{sin\left(17\right)}{3.5}$
* (From Unit 4, Lesson 7.)
1. *Technology required.*What is the value of $x$?
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* (From Unit 4, Lesson 6.)
1. Find the missing side in each triangle using any method. Check your answers using a different method.
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* (From Unit 4, Lesson 1.)
1. The triangles are congruent. Write a sequence of rigid motions that takes triangle $XYZ$ onto triangle $BCA$.
* 
* (From Unit 2, Lesson 3.)



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