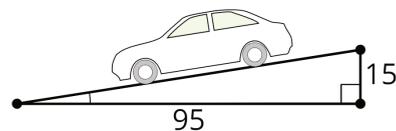
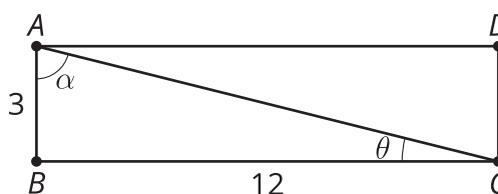


Lesson 9 Practice Problems

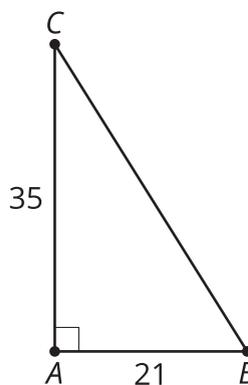
1. *Technology required.* Ramps in a parking garage need to be both steep and safe. The maximum safe incline for a ramp is 8.5 degrees. Is this ramp safe? If not, provide dimensions that would make the ramp safe.



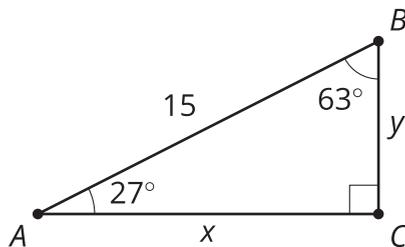
2. *Technology required.* $ABCD$ is a rectangle. Find the length of AC and the measures of α and θ .



3. *Technology required.* Find the missing measurements.



4. Select **all** the true equations:



A. $\sin(27) = \frac{x}{15}$

B. $\cos(63) = \frac{y}{15}$

C. $\tan(27) = \frac{y}{x}$

D. $\sin(63) = \frac{x}{15}$

E. $\tan(63) = \frac{y}{x}$

(From Unit 4, Lesson 8.)

5. What value of θ makes this equation true? $\sin(30) = \cos(\theta)$

A. -30

B. 30

C. 60

D. 180

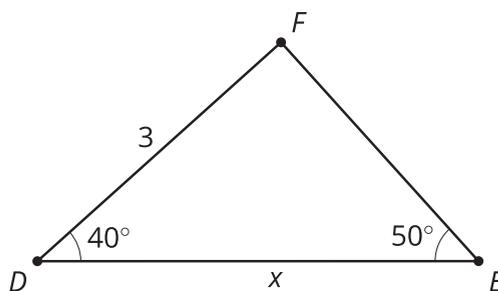
(From Unit 4, Lesson 8.)

6. 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?

- A. $3.5 \tan(17)$
- B. $3.5 \cos(17)$
- C. $3.5 \sin(17)$
- D. $\frac{\sin(17)}{3.5}$

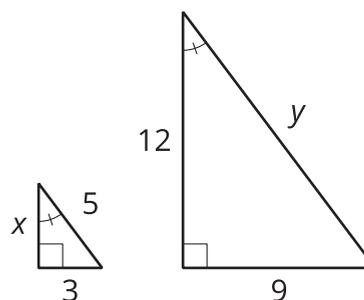
(From Unit 4, Lesson 7.)

7. *Technology required.* What is the value of x ?



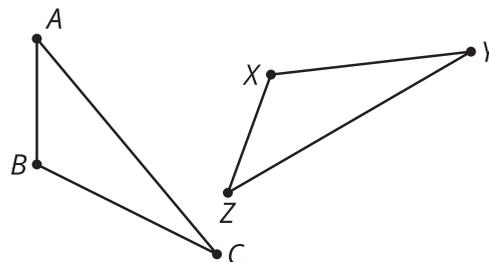
(From Unit 4, Lesson 6.)

8. Find the missing side in each triangle using any method. Check your answers using a different method.



(From Unit 4, Lesson 1.)

9. The triangles are congruent. Write a sequence of rigid motions that takes triangle XYZ onto triangle BCA .



(From Unit 2, Lesson 3.)