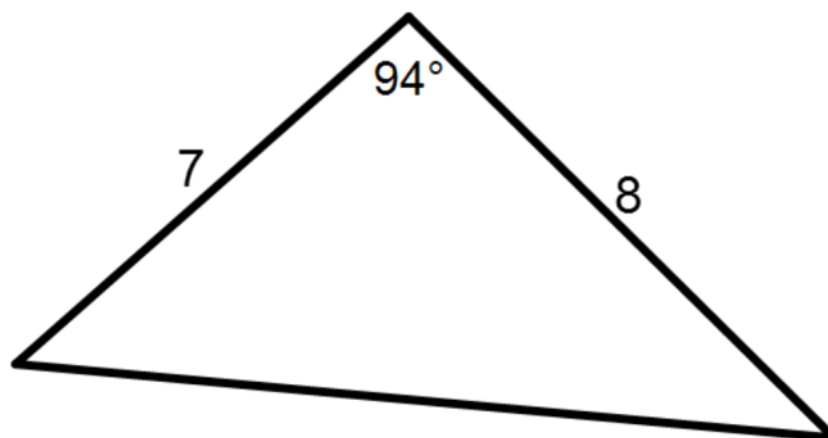


**WARM UP** Solve for the remaining parts of this triangle.



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## ESSENTIAL QUESTION

How can trigonometry be used to solve real-world and mathematical problems?

**NEEDED VOCAB:**

- ▶ **Angle of Depression**
- ▶ **Angle of Elevation**

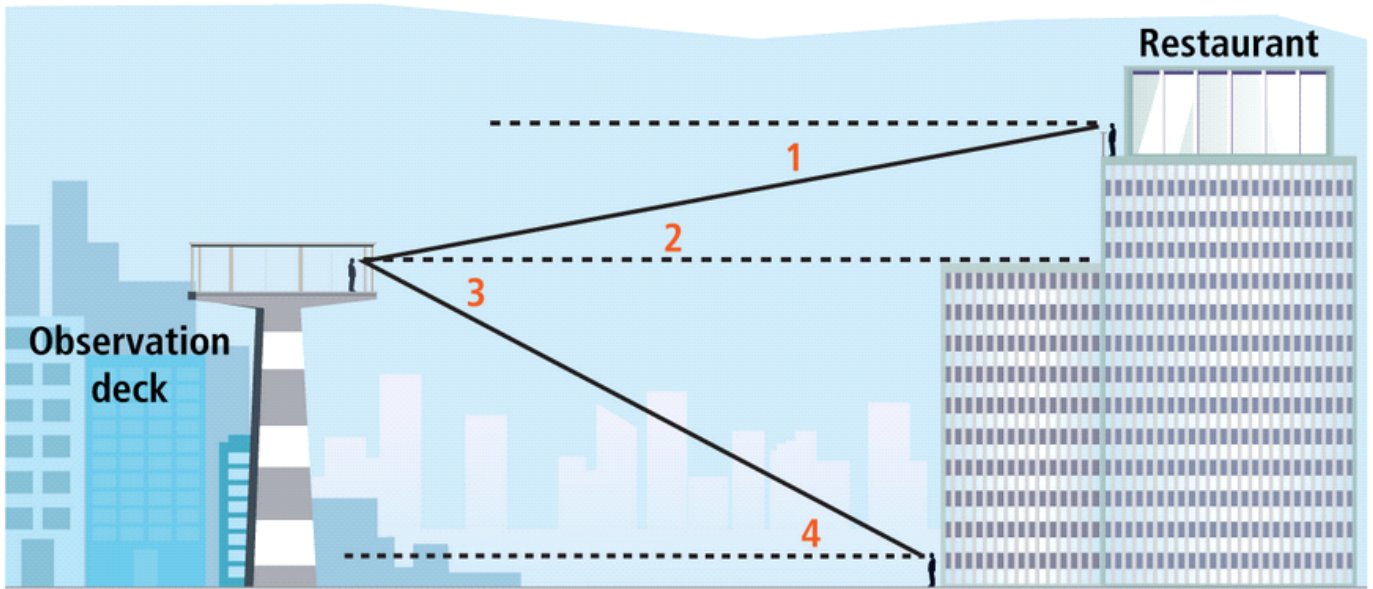
**GOAL: "I CAN..."**

**Use trigonometry to solve problems."**

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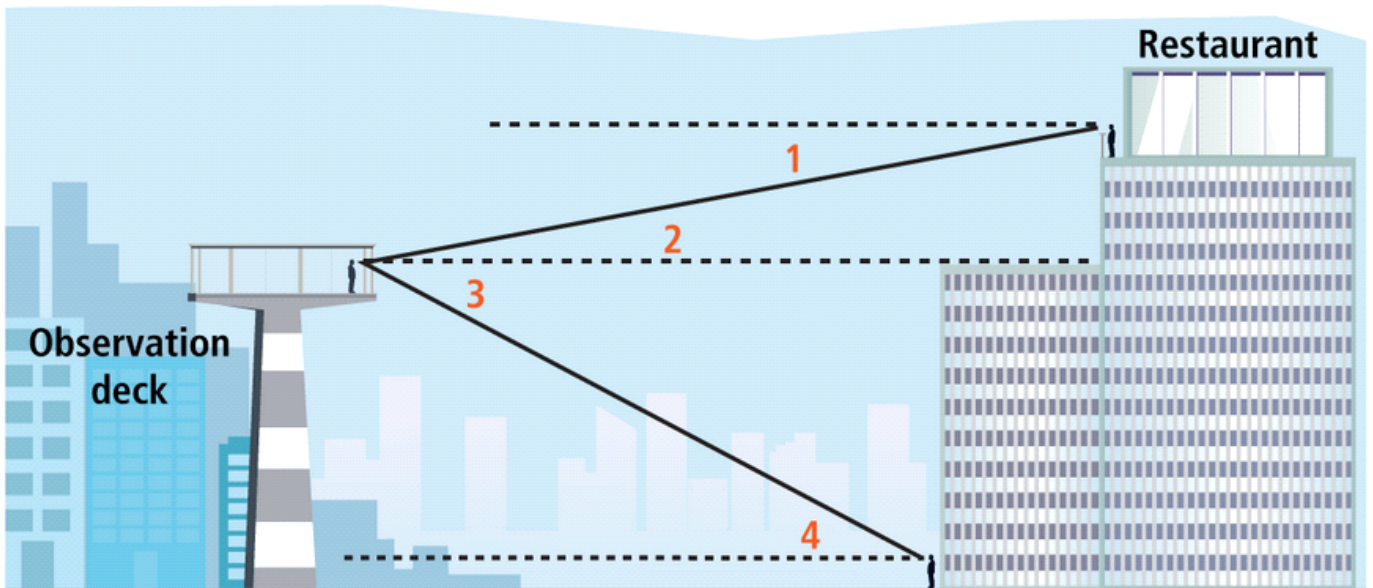
### EXAMPLE 1

Identify  $\angle 2$  as an angle of elevation or an angle of depression. Do the same for  $\angle 3$ . Explain your reasoning.



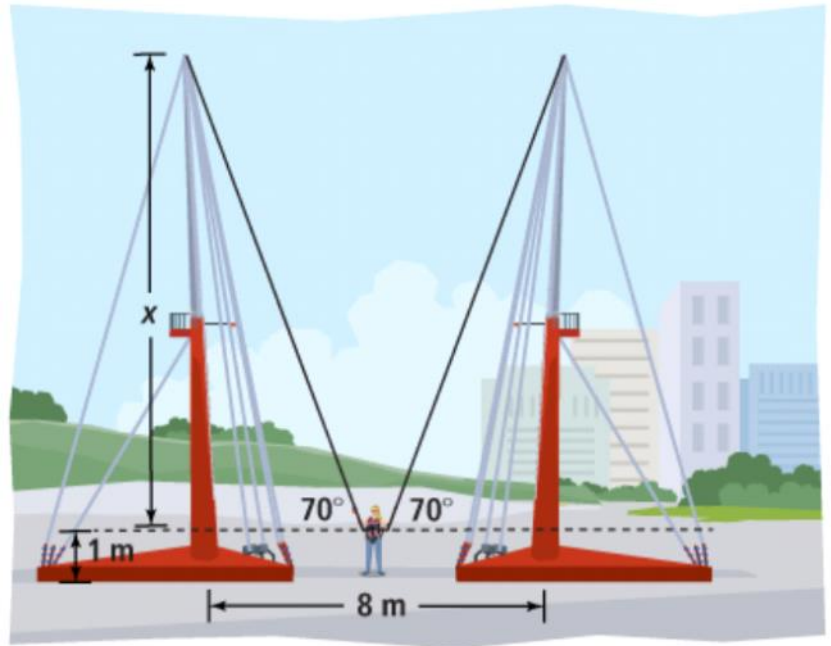
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1. How does the angle of depression,  $\angle 1$ , compare with the angle of elevation,  $\angle 2$ ? Explain your reasoning.



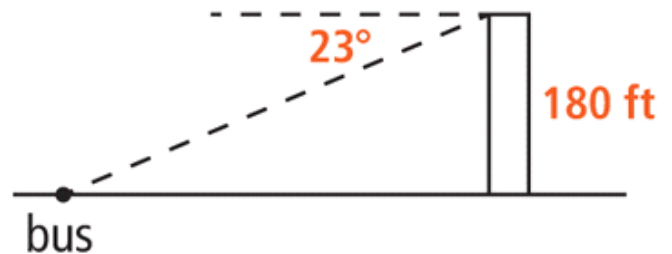
## EXAMPLE 2

For a reverse bungee ride, Reagan stands halfway between two vertical posts. Two bungee cords extend from the top of the posts to Reagan's waist at a height 1m above the ground. How tall are the vertical posts?



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2. Nadeem sees the tour bus from the top of the tower. To the nearest foot, how far is the bus from the base of the tower?



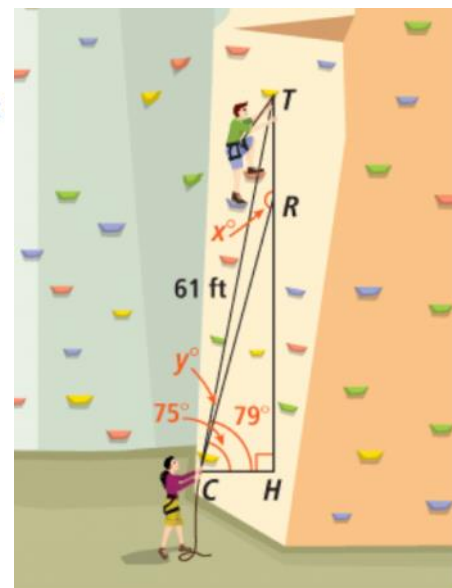
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## EXAMPLE 3

An instructor holds a safety rope at point  $C$  for a student to rappel from the anchor point  $T$ . The rope between them currently measures 61 ft. How much more rope should the instructor let out so the student can make it to a resting point at

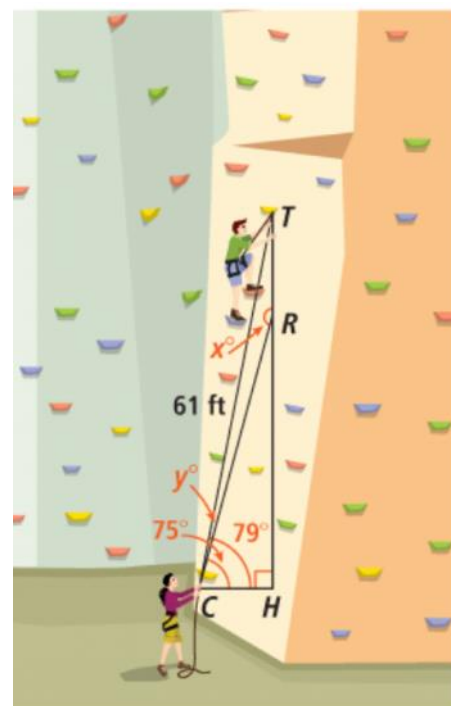


rappel from the anchor point  $T$ . The rope between them currently measures 61 ft. How much more rope should the instructor let out so the student can make it to a resting point at point  $R$ ?



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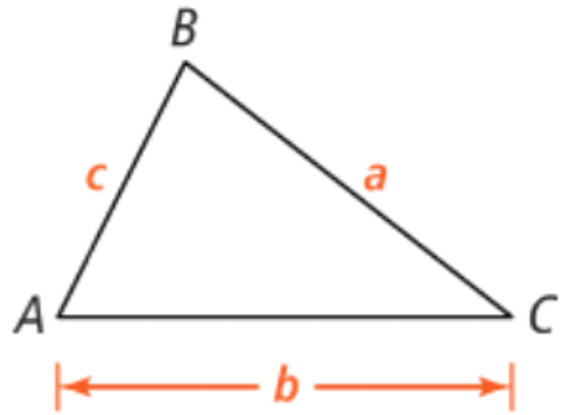
3. How far is the student from the instructor at the resting point?



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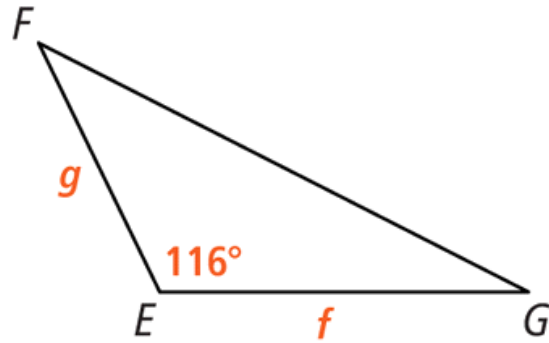
## EXAMPLE 4

A. How can you use trigonometry to find the area of  $\triangle ABC$ ?



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B. What is the area of  $\triangle FEG$ ?

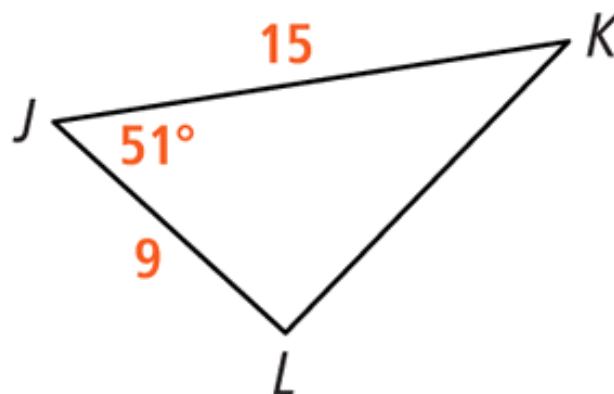


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4. a. What is the area of  $\triangle JKL$ ?

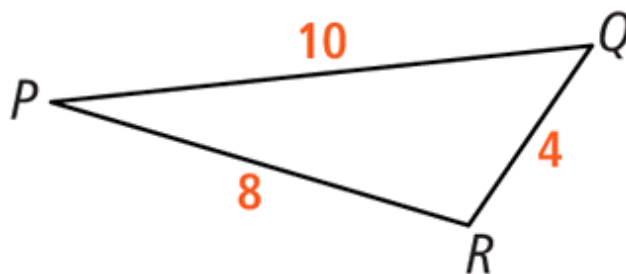


4. a. What is the area of  $\triangle JKL$ ?



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4. b. What is the area of  $\triangle PQR$ ?



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<https://tinyurl.com/utdxzgk>



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# HOMework

**Pg. 378**

**13, 15, 17, 19-22, 26, 27**