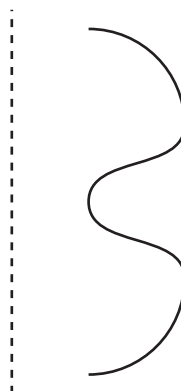


## Lesson 2 Practice Problems

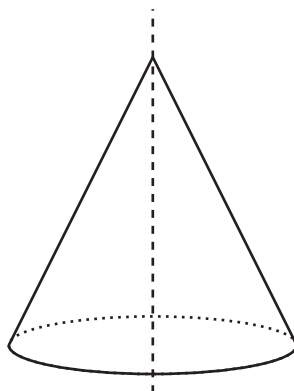
1. Select **all** figures for which there exists a direction such that all cross sections taken at that direction are congruent.
  - A. triangular pyramid
  - B. square pyramid
  - C. rectangular prism
  - D. cube
  - E. cone
  - F. cylinder
  - G. sphere
  
2. Imagine an upright cone with its base resting on your horizontal desk. Sketch the cross section formed by intersecting each plane with the cone.
  - a. vertical plane not passing through the cone's topmost point
  
  
  
  
  
  
  
  
  
  
  - b. horizontal plane
  
  
  
  
  
  
  
  
  
  
  - c. diagonal plane
  
  
  
  
  
  
  
  
  
  
3. Name 2 figures for which a circle can be a cross section.

4. Sketch the solid of rotation formed by rotating the given two-dimensional figure using the dashed vertical line as an axis of rotation.



(From Unit 5, Lesson 1.)

5. Draw a two-dimensional figure that could be rotated using a vertical axis of rotation to give the cone shown.



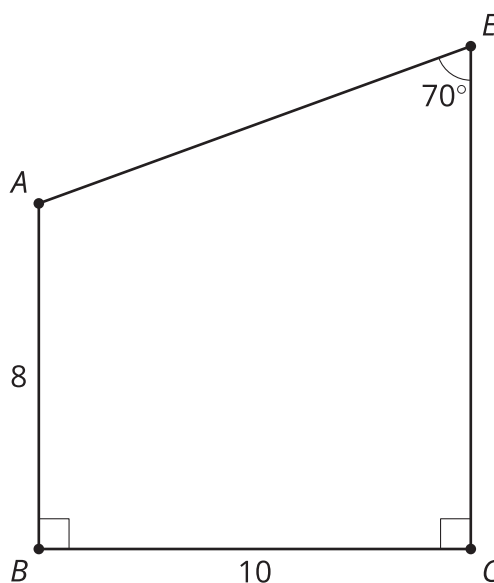
(From Unit 5, Lesson 1.)

6. A regular hexagon and a regular octagon are both inscribed in the same circle. Which of these statements is true?

- A. The perimeter of the hexagon is less than the perimeter of the octagon, and each perimeter is less than the circumference of the circle.
- B. The perimeter of the octagon is less than the perimeter of the hexagon, and each perimeter is less than the circumference of the circle.
- C. The perimeter of the hexagon is greater than the perimeter of the octagon, and each perimeter is greater than the circumference of the circle.
- D. The perimeter of the octagon is greater than the perimeter of the hexagon, and each perimeter is greater than the circumference of the circle.

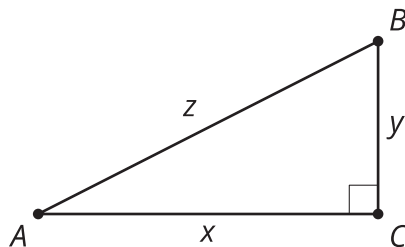
(From Unit 4, Lesson 11.)

7. *Technology required.* Find the perimeter of the figure.



(From Unit 4, Lesson 10.)

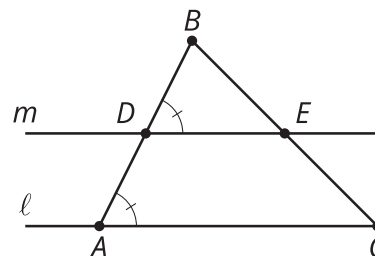
8. Match each trigonometric function to a ratio. You may use ratios more than once.



- |              |                  |
|--------------|------------------|
| A. $\tan(A)$ | 1. $\frac{y}{z}$ |
| B. $\tan(B)$ | 2. $\frac{x}{z}$ |
| C. $\cos(A)$ | 3. $\frac{x}{y}$ |
| D. $\cos(B)$ | 4. $\frac{y}{x}$ |
| E. $\sin(A)$ |                  |
| F. $\sin(B)$ |                  |

(From Unit 4, Lesson 6.)

9. Explain how you know lines  $m$  and  $l$  are parallel.



(From Unit 1, Lesson 20.)