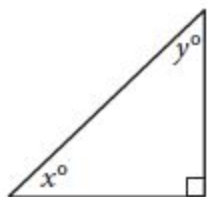


17



In the triangle above, the sine of x° is 0.6. What is the cosine of y° ?

8

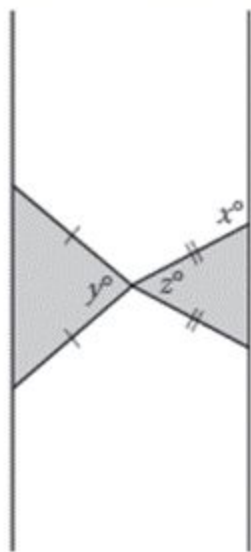
Which of the following equations represents a line that is parallel to the line with equation $y = -3x + 4$?

- A) $6x + 2y = 15$
- B) $3x - y = 7$
- C) $2x - 3y = 6$
- D) $x + 3y = 1$

34

In a circle with center O , central angle AOB has a measure of $\frac{5\pi}{4}$ radians. The area of the sector formed by central angle AOB is what fraction of the area of the circle?

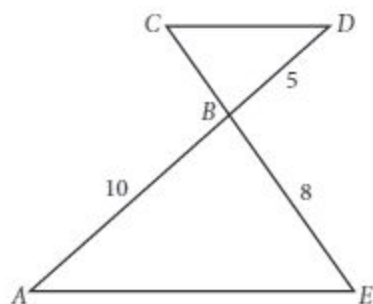
18



Note: Figure not drawn to scale.

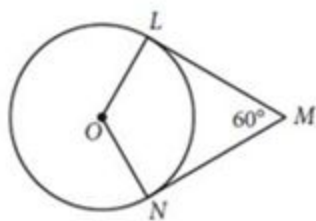
Two isosceles triangles are shown above. If $180 - z = 2y$ and $y = 75$, what is the value of x ?

18



In the figure above, $\overline{AE} \parallel \overline{CD}$ and segment AD intersects segment CE at B . What is the length of segment CE ?

36



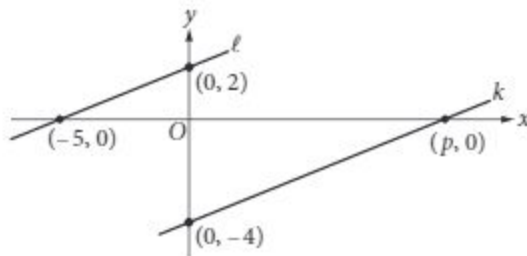
In the figure above, point O is the center of the circle, line segments LM and MN are tangent to the circle at points L and N , respectively, and the segments intersect at point M as shown. If the circumference of the circle is 96, what is the length of minor arc \widehat{LN} ?

9

The graph of a line in the xy -plane has slope 2 and contains the point $(1, 8)$. The graph of a second line passes through the points $(1, 2)$ and $(2, 1)$. If the two lines intersect at the point (a, b) , what is the value of $a + b$?

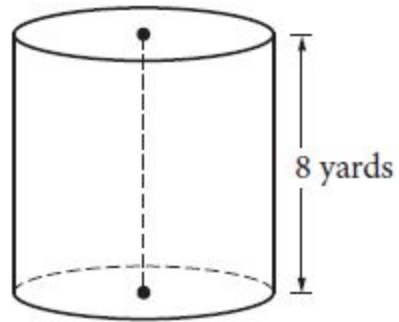
- A) 4
- B) 3
- C) -1
- D) -4

6

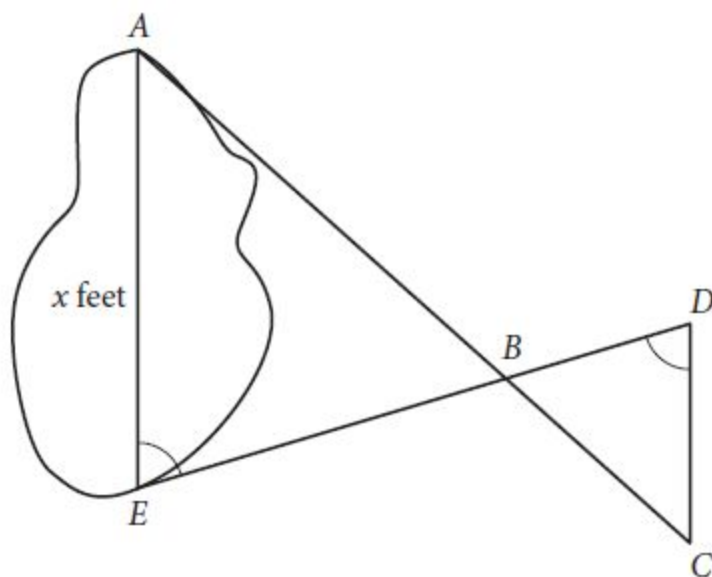


In the xy -plane above, line ℓ is parallel to line k . What is the value of p ?

- A) 4
- B) 5
- C) 8
- D) 10



A dairy farmer uses a storage silo that is in the shape of the right circular cylinder above. If the volume of the silo is 72π cubic yards, what is the diameter of the base of the cylinder, in yards?



A summer camp counselor wants to find a length, x , in feet, across a lake as represented in the sketch above. The lengths represented by AB , EB , BD , and CD on the sketch were determined to be 1800 feet, 1400 feet, 700 feet, and 800 feet, respectively. Segments AC and DE intersect at B , and $\angle AEB$ and $\angle CDB$ have the same measure. What is the value of x ?

A line in the xy -plane passes through the origin and has a slope of $\frac{1}{7}$. Which of the following points lies on the line?

- A) (0, 7)
- B) (1, 7)
- C) (7, 7)
- D) (14, 2)