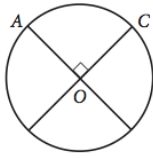


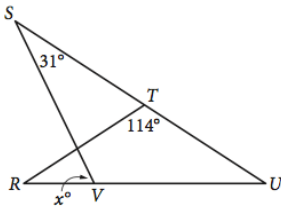
2



The circle above with center O has a circumference of 36. What is the length of minor arc \widehat{AC} ?

- A) 9
- B) 12
- C) 18
- D) 36

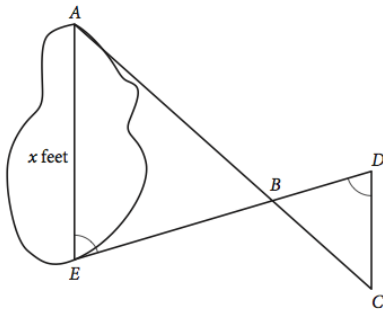
4



In the figure above, $RT = TU$. What is the value of x ?

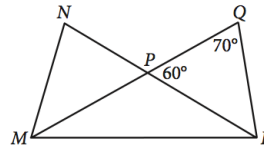
- A) 72
- B) 66
- C) 64
- D) 58

17



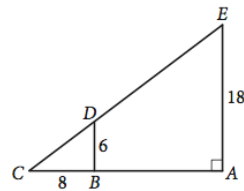
A summer camp counselor wants to find a length, x , in feet, across a lake as represented in the sketch above. The lengths represented by AB , EB , BD , and CD on the sketch were determined to be 1800 feet, 1400 feet, 700 feet, and 800 feet, respectively. Segments AC and DE intersect at B , and $\angle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

17



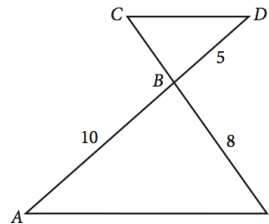
In the figure above, \overline{MQ} and \overline{NR} intersect at point P , $NP = QP$, and $MP = PR$. What is the measure, in degrees, of $\angle QMR$? (Disregard the degree symbol when gridding your answer.)

18



In the figure above, \overline{BD} is parallel to \overline{AE} . What is the length of \overline{CE} ?

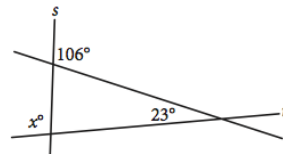
18



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

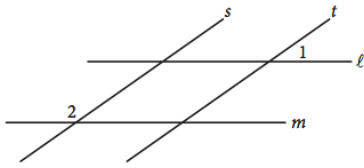
20

Intersecting lines r , s , and t are shown below.



What is the value of x ?

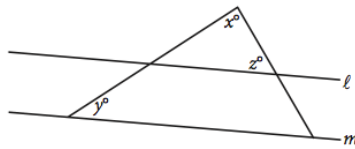
3



In the figure above, lines ℓ and m are parallel and lines s and t are parallel. If the measure of $\angle 1$ is 35° , what is the measure of $\angle 2$?

- A) 35°
- B) 55°
- C) 70°
- D) 145°

5

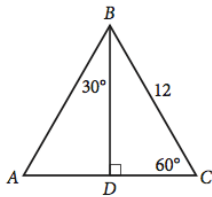


Note: Figure not drawn to scale.

In the figure above, lines ℓ and m are parallel, $y = 20$, and $z = 60$. What is the value of x ?

- A) 120
- B) 100
- C) 90
- D) 80

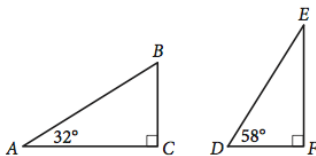
19



In $\triangle ABC$ above, what is the length of \overline{AD} ?

- A) 4
- B) 6
- C) $6\sqrt{2}$
- D) $6\sqrt{3}$

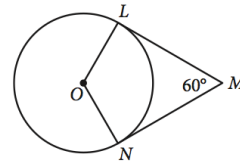
16



Triangles ABC and DEF are shown above. Which of the following is equal to the ratio $\frac{BC}{AB}$?

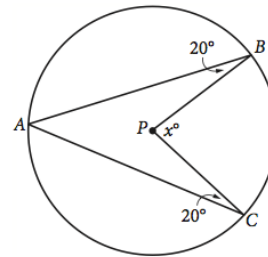
- A) $\frac{DE}{DF}$
- B) $\frac{DF}{DE}$
- C) $\frac{DF}{EF}$
- D) $\frac{EF}{DE}$

36



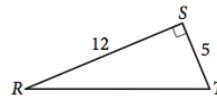
In the figure above, point O is the center of the circle, line segments LM and MN are tangent to the circle at points L and N , respectively, and the segments intersect at point M as shown. If the circumference of the circle is 96, what is the length of minor arc \widehat{LN} ?

36



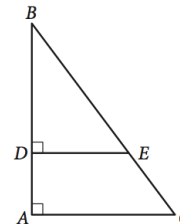
Point P is the center of the circle in the figure above. What is the value of x ?

36



In triangle RST above, point W (not shown) lies on \overline{RT} . What is the value of $\cos(\angle RSW) - \sin(\angle WST)$?

36



In the figure above, $\tan B = \frac{3}{4}$. If $BC = 15$ and $DA = 4$, what is the length of \overline{DE} ?