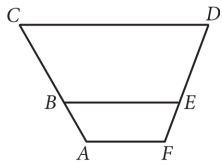


Note: Figure not drawn to scale.

In the figure, line q is parallel to line r , and both lines are intersected by line s . If $y = 2x + 8$, what is the value of x ?

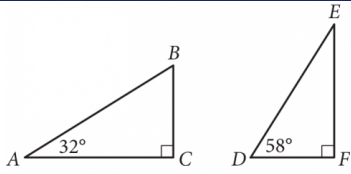


In the figure above, \overline{AF} , \overline{BE} , and \overline{CD} are parallel. Points B and E lie on \overline{AC} and \overline{FD} , respectively. If $AB = 9$, $BC = 18.5$, and $FE = 8.5$, what is the length of \overline{ED} , to the nearest tenth?

- A. 16.8
- B. 17.5
- C. 18.4
- D. 19.6

Two nearby trees are perpendicular to the ground, which is flat. One of these trees is **10** feet tall and has a shadow that is **5** feet long. At the same time, the shadow of the other tree is **2** feet long. How tall, in feet, is the other tree?

- A. **3**
- B. **4**
- C. **8**
- D. **27**



Triangles ABC and DEF are shown above. Which of the

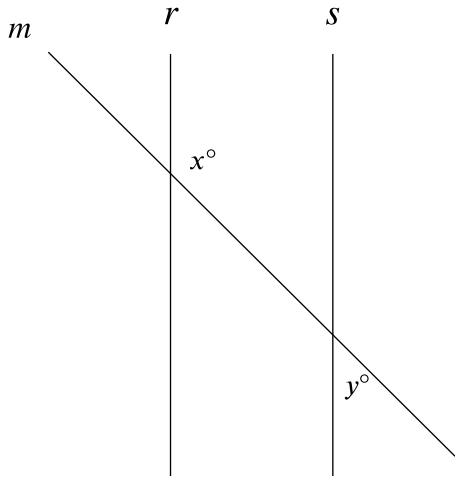
following is equal to the ratio $\frac{BC}{AB}$?

A. $\frac{DE}{DF}$

B. $\frac{DF}{DE}$

C. $\frac{DF}{EF}$

D. $\frac{EF}{DE}$



Note: Figure not drawn to scale.

In the figure shown, lines r and s are parallel, and line m intersects both lines. If $y < 65$, which of the following must be true?

- A. $x < 115$
- B. $x > 115$
- C. $x + y < 180$
- D. $x + y > 180$

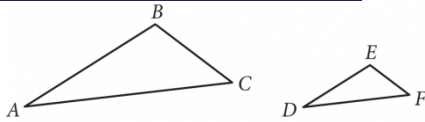
Triangle ABC is similar to triangle XYZ , such that A , B , and C correspond to X , Y , and Z respectively. The length of each side of triangle XYZ is **2** times the length of its corresponding side in triangle ABC . The measure of side AB is **16**. What is the measure of side XY ?

- A. **14**
- B. **16**
- C. **18**
- D. **32**

In triangle JKL , the measures of $\angle K$ and $\angle L$ are each 48° . What is the measure of $\angle J$, in degrees? (Disregard the degree symbol when entering your answer.)

Quadrilateral $P'Q'R'S'$ is similar to quadrilateral $PQRS$, where P , Q , R , and S correspond to P' , Q' , R' , and S' , respectively. The measure of angle P is 30° , the measure of angle Q is 50° , and the measure of angle R is 70° . The length of each side of $P'Q'R'S'$ is **3** times the length of each corresponding side of $PQRS$. What is the measure of angle P' ?

- A. 10°
- B. 30°
- C. 40°
- D. 90°

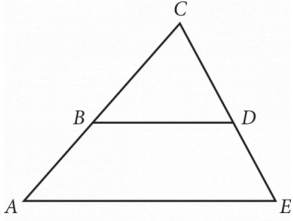


Note: Figures not drawn to scale.

Triangle ABC and triangle DEF are shown. The relationship between the side lengths of the two triangles is such that $\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF} = 3$. If the measure of angle BAC is 20° , what is the measure, in degrees, of angle EDF ? (Disregard the degree symbol when gridding your answer.)

In triangle ABC , the measure of angle A is 50° . If triangle ABC is isosceles, which of the following is NOT a possible measure of angle B ?

- A. 50°
- B. 65°
- C. 80°
- D. 100°



Note: Figure not drawn to scale.

In the figure above, segments AE and BD are parallel. If angle BDC measures 58° and angle ACE measures 62° , what is the measure of angle CAE ?

- A. 58°
- B. 60°
- C. 62°
- D. 120°

Right triangles LMN and PQR are similar, where L and M correspond to P and Q , respectively. Angle M has a measure of 53° . What is the measure of angle Q ?

- A. 37°
- B. 53°
- C. 127°
- D. 143°