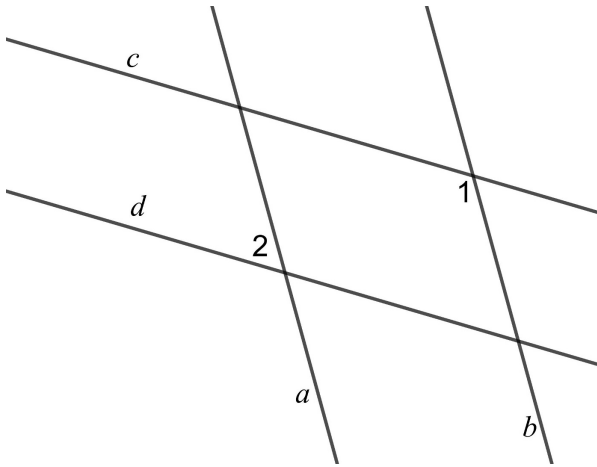


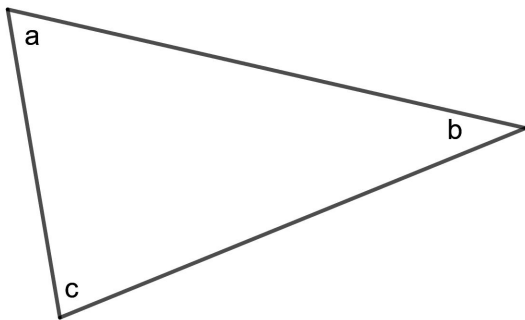
Angles Practice Questions

DO NOT USE A CALCULATOR ON ANY OF THE FOLLOWING QUESTIONS UNLESS INDICATED.



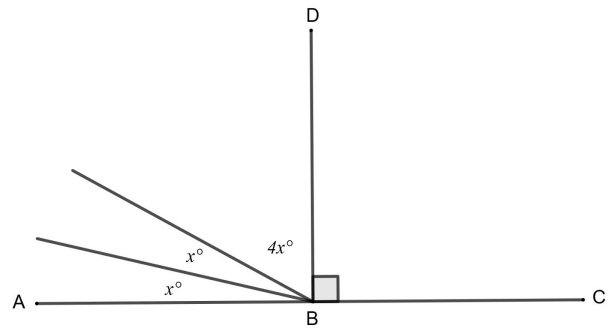
1. In the figure above, lines a and b are parallel and lines c and d are parallel. If the measure of $\angle 2$ is 40° , what is the measure of $\angle 1$?

- (A) 40°
- (B) 80°
- (C) 100°
- (D) 140°



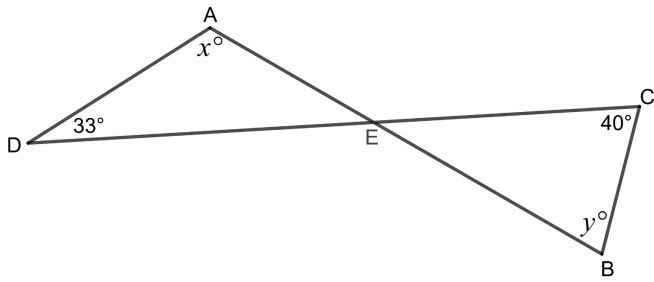
Note: Figure not drawn to scale.

2. (CALCULATOR) FREE RESPONSE: In the triangle above, the measure of $\angle b$ is 33° . What is the sum of the measures of angle a and angle c , in degrees?



3. (CALCULATOR) In the figure above, point B lies on \overline{AC} . What is the value of $4x$?

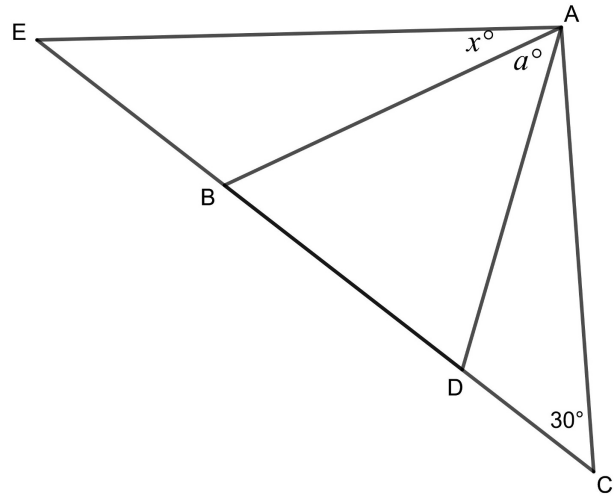
- (A) 15
- (B) 35
- (C) 45
- (D) 60



Note: Figure not drawn to scale.

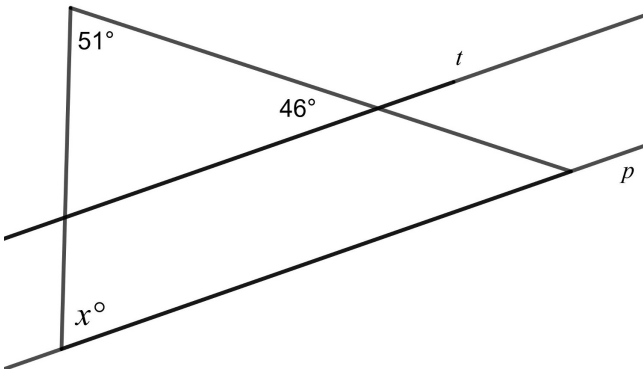
4. (CALCULATOR) In the figure above, \overline{AB} intersects \overline{CD} at E. If $x = 106$, what is the value of y ?

- (A) 41
- (B) 74
- (C) 99
- (D) 106



Note: Figure not drawn to scale.

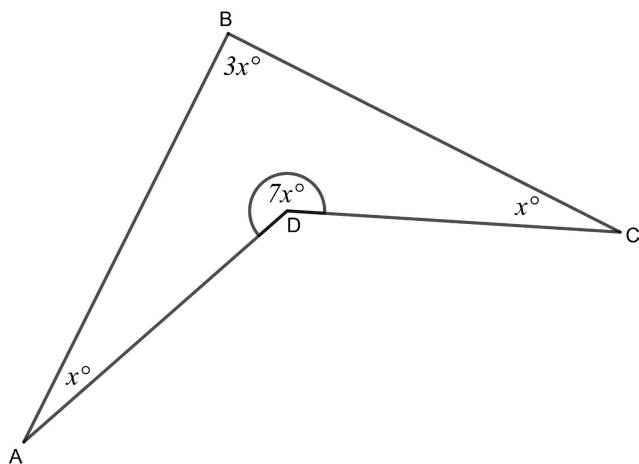
6. FREE RESPONSE: In the figure above, $\overline{AC} = \overline{AE}$ and $\overline{AB} = \overline{AD}$ and the value of a is 20. What is the value of x ?



Note: Figure not drawn to scale.

5. (CALCULATOR) In the figure above, lines t and p are parallel. What is the value of x ?

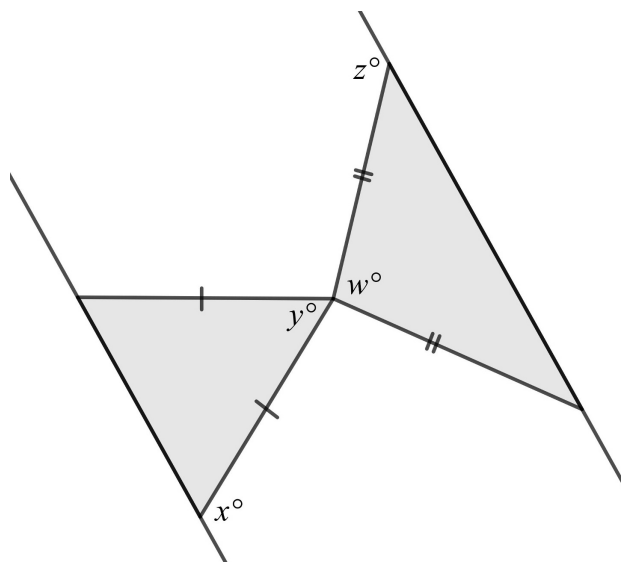
- (A) 46
- (B) 83
- (C) 97
- (D) 103



Note: Figure not drawn to scale.

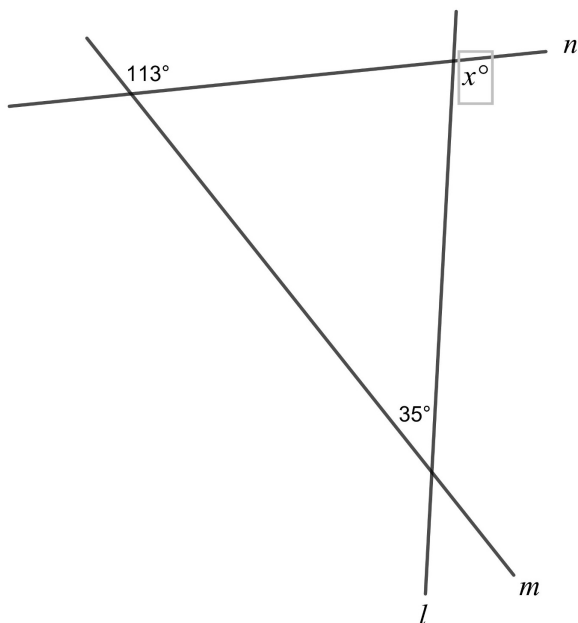
7. (CALCULATOR) In the figure above, what is the value of $7x$?

(A) 30
(B) 90
(C) 140
(D) 210



Note: Figure not drawn to scale.

9. FREE RESPONSE: Two isosceles triangles are shown above. If $z = 150$ and $w = 2y$, what is the value of x ?

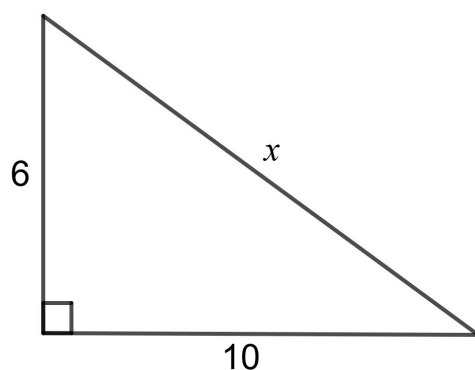


Note: Figure not drawn to scale

8. (CALCULATOR) FREE RESPONSE:
Intersecting lines l , m , and n are shown above. What is the value of x ?

Pythagorean Theorem Practice Questions

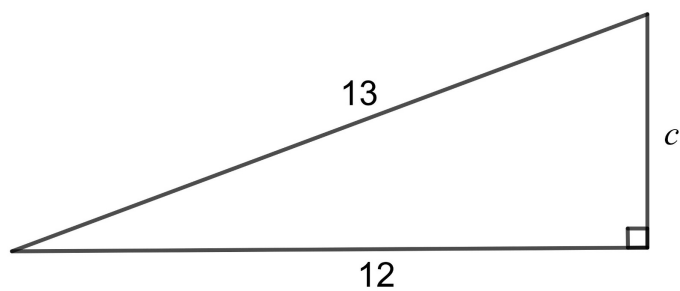
CALCULATOR USAGE IS PERMITTED ON ALL OF THE FOLLOWING QUESTIONS.



Note: Figure not drawn to scale.

1. For the right triangle in the figure above, what is the value of x ?

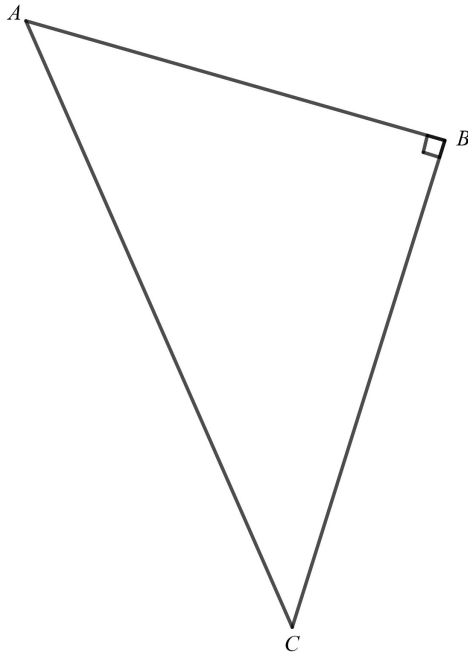
- (A) 8
- (B) $2\sqrt{34}$
- (C) 16
- (D) 136



Note: Figure not drawn to scale.

2. For the right triangle in the figure above, what is the value of c ?

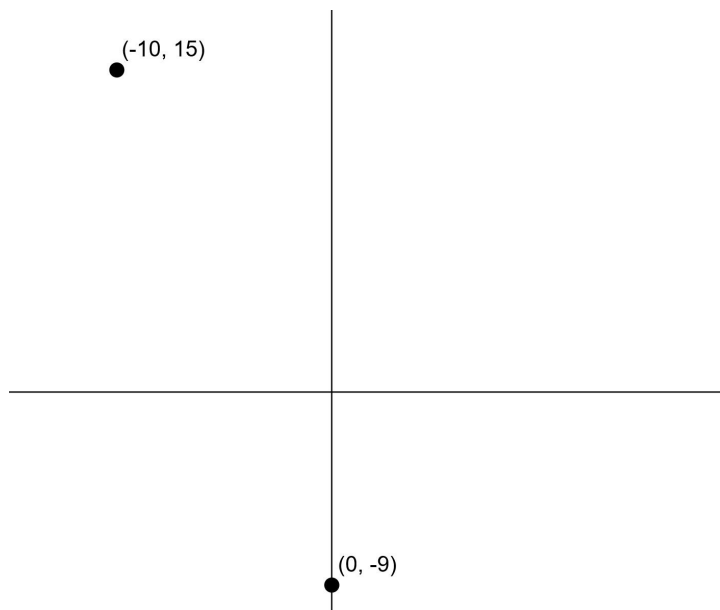
- (A) 5
- (B) 11
- (C) $\sqrt{313}$
- (D) 25



Note: Figure not drawn to scale.

3. The figure above shows right triangle ABC. If the length of \overline{AB} is 9 and the length of \overline{AC} is 15, what is the length of \overline{BC} ?

- (A) 4
- (B) 12
- (C) $3\sqrt{34}$
- (D) 24

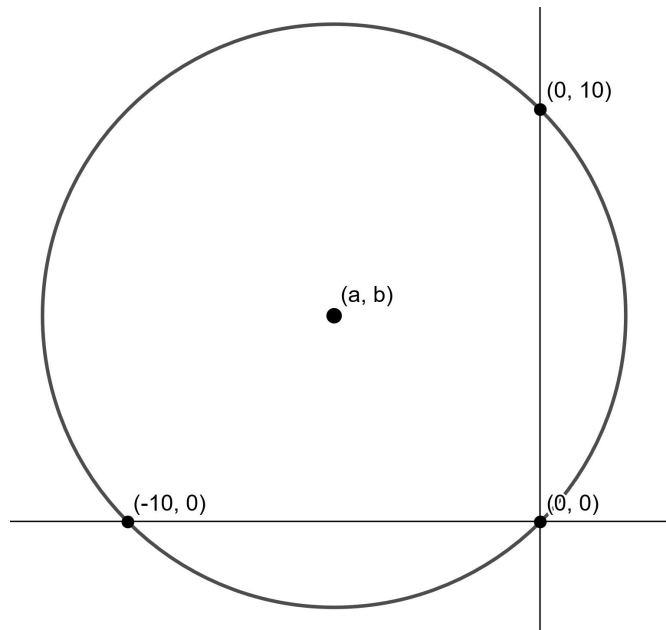


4. FREE RESPONSE: What is the distance between the two points shown in the xy -plane above?



Note: Figure not drawn to scale.

5. FREE RESPONSE: The figure above shows rectangle $ABCD$. What is the length of diagonal \overline{BD} ?



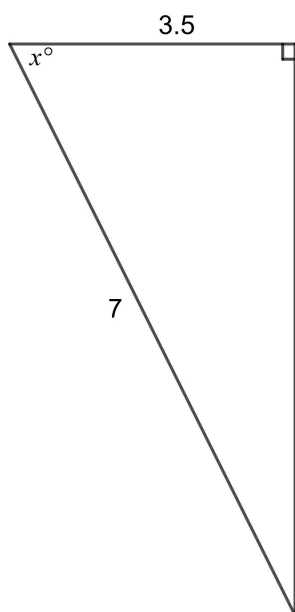
6. What is the diameter of the circle with center at (a, b) shown in the xy -plane above?

- (A) 10
- (B) $5\sqrt{2}$
- (C) $10\sqrt{2}$
- (D) 20

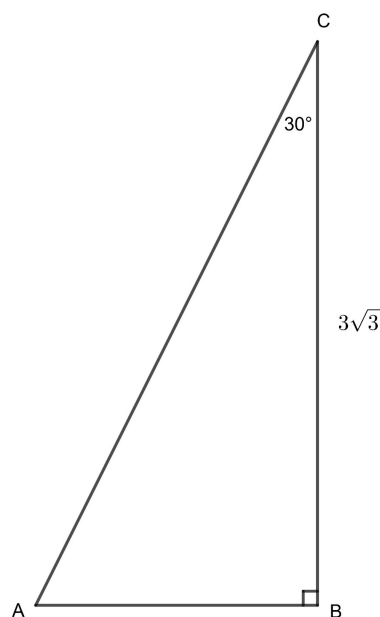
Special Right Triangles Practice Questions

NOTE: Do not refer to the diagrams given in the lesson. Practice your memory!

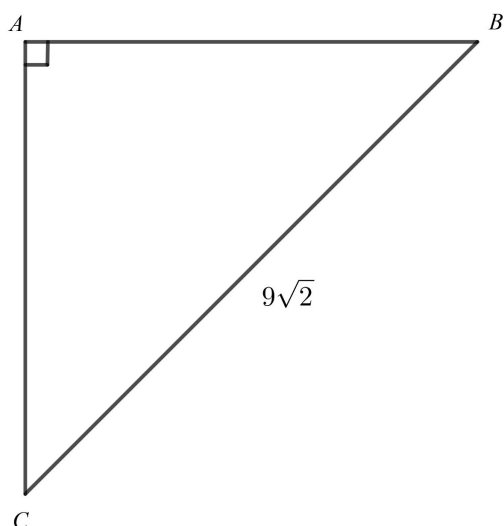
DO NOT USE A CALCULATOR ON ANY OF THE FOLLOWING QUESTIONS.



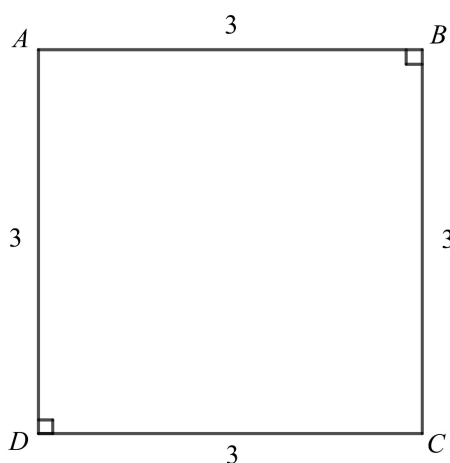
1. FREE RESPONSE: In the figure above, what is the value of x ?



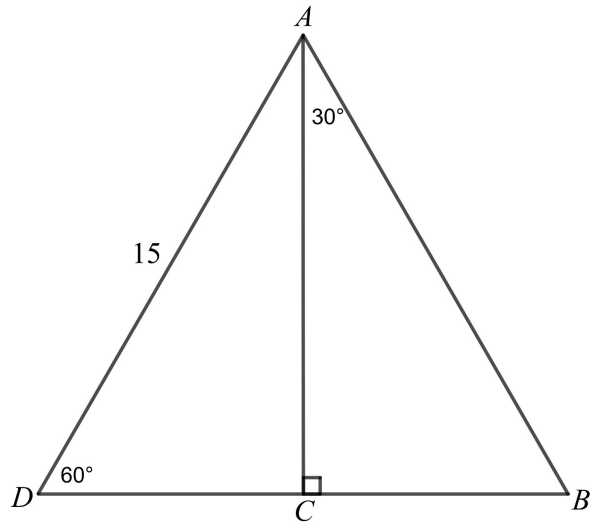
3. FREE RESPONSE: The triangle ABC is shown in the diagram above. What is the length of side \overline{AC} ?



2. FREE RESPONSE: Isosceles Triangle ABC is shown above. What is the length of side \overline{AC} ?

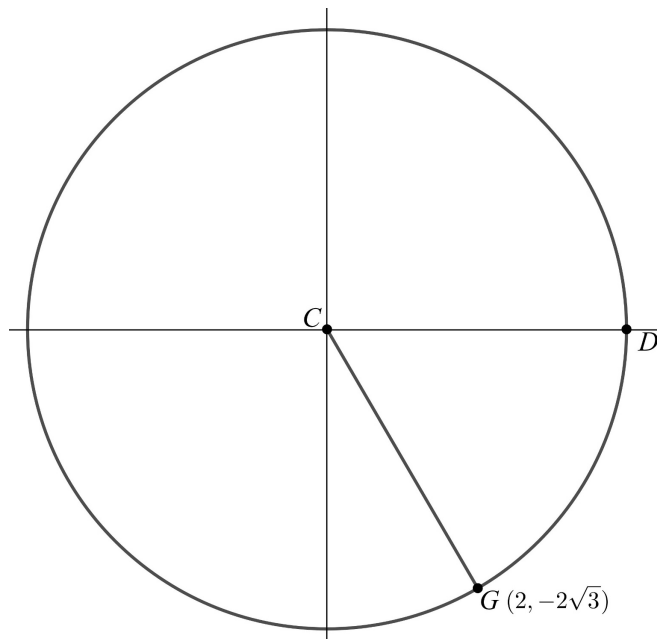


4. What is the length of diagonal \overline{BD} in the square shown above?
- (A) 3
- (B) $3\sqrt{2}$
- (C) $3\sqrt{3}$
- (D) $6\sqrt{2}$

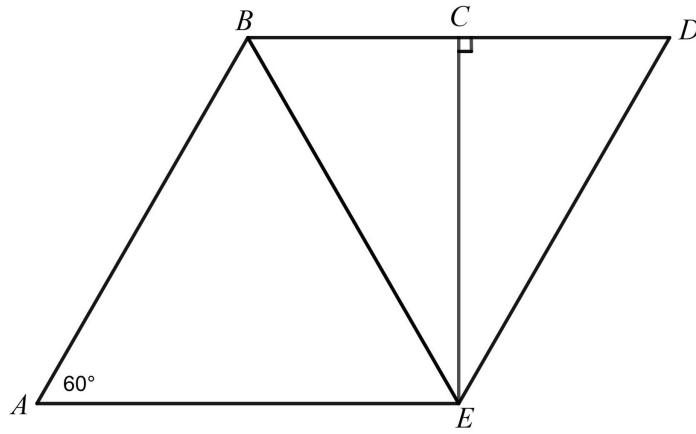


5. The figure above shows triangle ABC . What is the length of \overline{BC} ?

- (A) 5
- (B) 7.5
- (C) $7.5\sqrt{3}$
- (D) 15

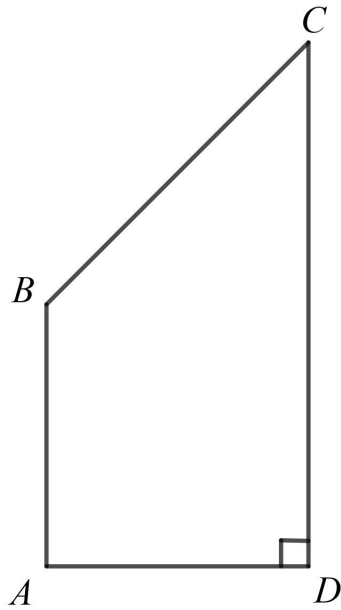


6. FREE RESPONSE: In the xy -plane above, C is the center of a circle. What is the measure of $\angle DCG$ in degrees?



7. In the figure above, \overline{AE} and \overline{BD} are parallel and \overline{AB} and \overline{DE} are parallel. \overline{BE} bisects $\angle ABD$. The length of \overline{BE} is 8. What is the length of \overline{CE} ?

- (A) 4
- (B) $4\sqrt{3}$
- (C) 8
- (D) $8\sqrt{3}$

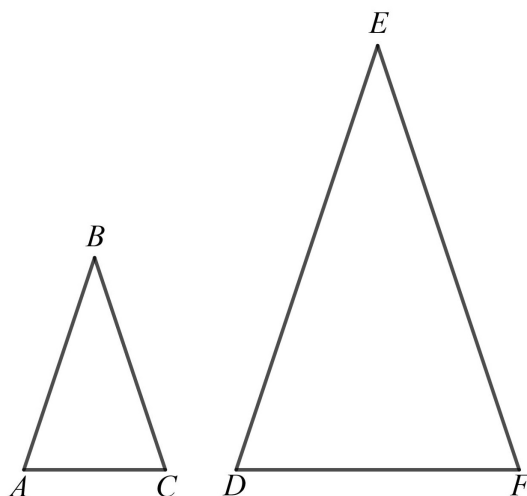


8. In the figure above, \overline{AB} is parallel to \overline{CD} , $\overline{AD} = \overline{AB}$ and $AB = \frac{1}{2}CD$. What is the measure of Angle B ?

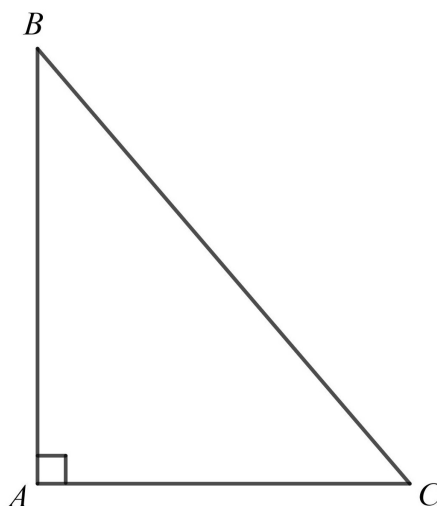
- (A) 150°
- (B) 135°
- (C) 120°
- (D) 45°

Similar Triangles Practice Questions

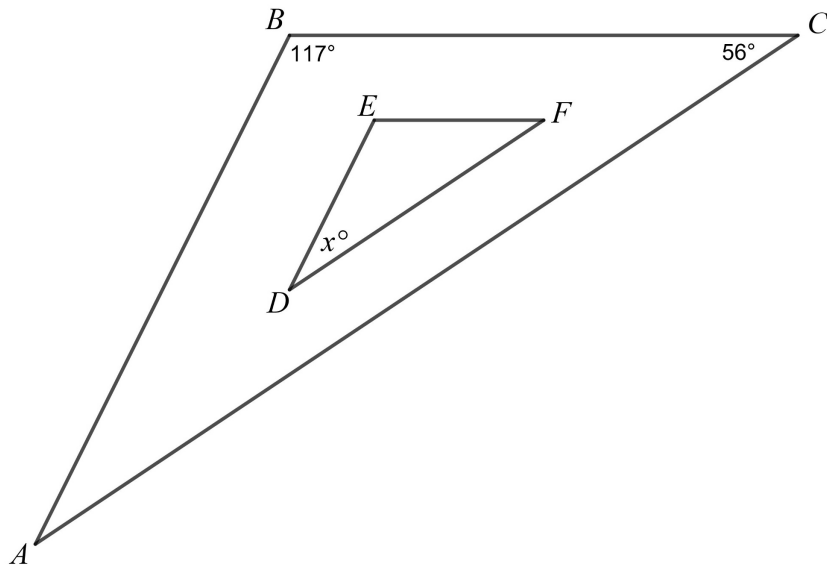
DO NOT USE A CALCULATOR ON ANY OF THE FOLLOWING QUESTIONS UNLESS INDICATED.



1. FREE RESPONSE: In the figure above, Triangles ABC and DEF are similar and $\angle B = \angle E$. The length of \overline{AC} is 2 and the length of \overline{DF} is 4. If the length of \overline{EF} is 10, what is the length of \overline{BC} ?

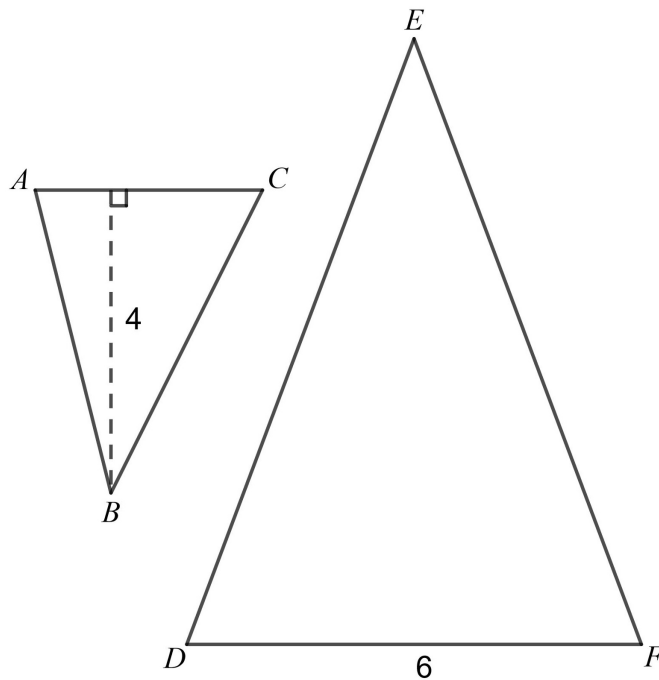


2. FREE RESPONSE: Triangle DEF (not shown) is similar to Triangle ABC shown in the diagram above. If the measures of Angle B and Angle C have the same sum as the measures of Angles D and E , what is the measure of Angle F in degrees?

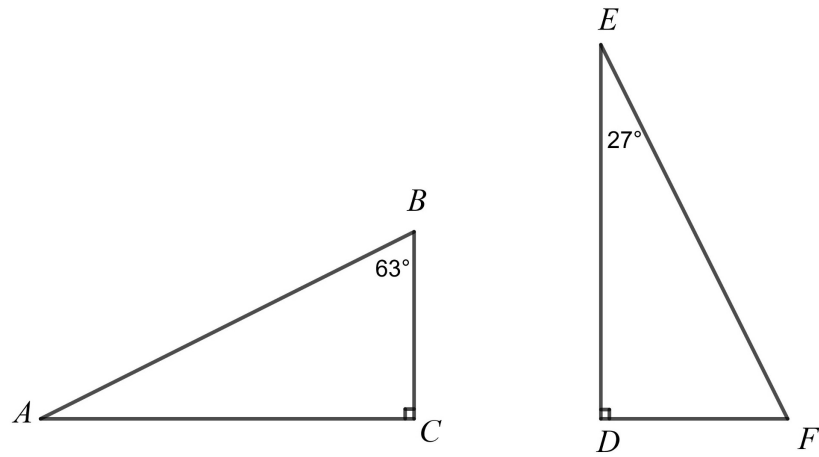


Note: Figure not drawn to scale.

3. (CALCULATOR) FREE RESPONSE: In the figure above, Triangles ABC and DEF are similar and $\angle F = \angle C$. What is the value of x ?



4. FREE RESPONSE: In the figure above, Triangles ABC and DEF are similar and $AC = 3$. What is the area of Triangle DEF ?



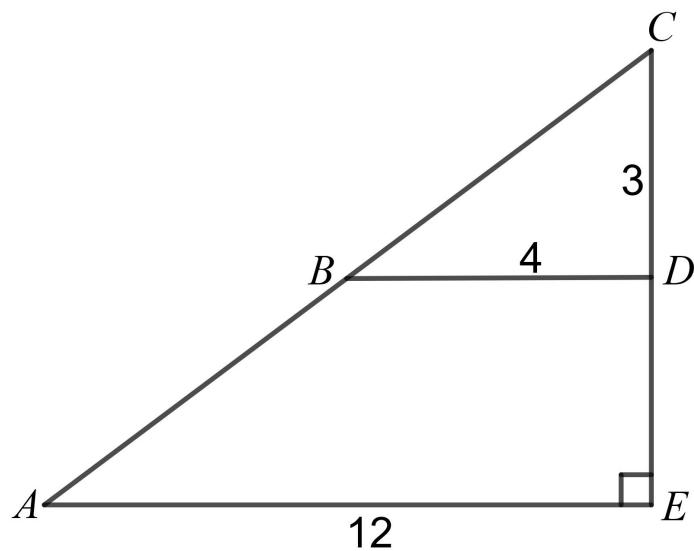
5. Triangles ABC and DEF are shown above. Which of the following is equal to the ratio $\frac{AB}{BC}$?

(A) $\frac{DF}{DE}$

(B) $\frac{DF}{EF}$

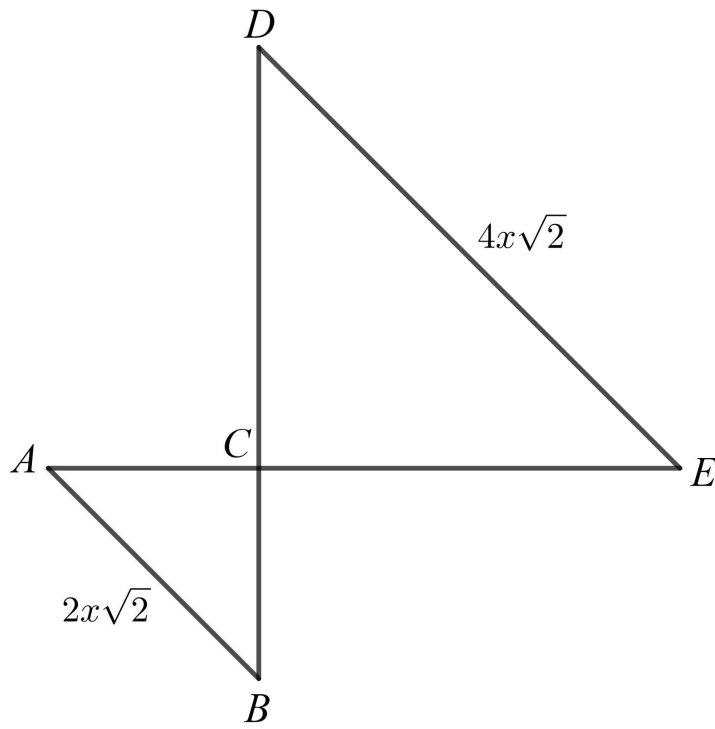
(C) $\frac{EF}{DE}$

(D) $\frac{EF}{DF}$



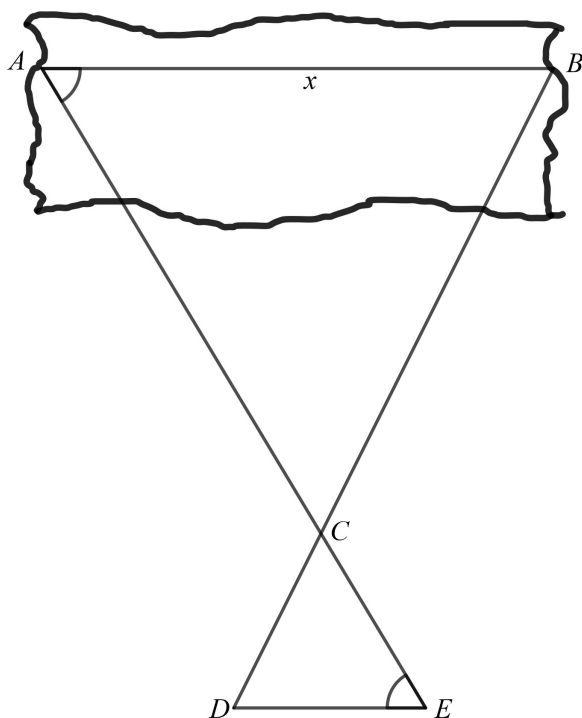
Note: Figure not drawn to scale.

6. FREE RESPONSE: In the figure above, \overline{AE} is parallel to \overline{BD} . What is the length of \overline{AB} ?



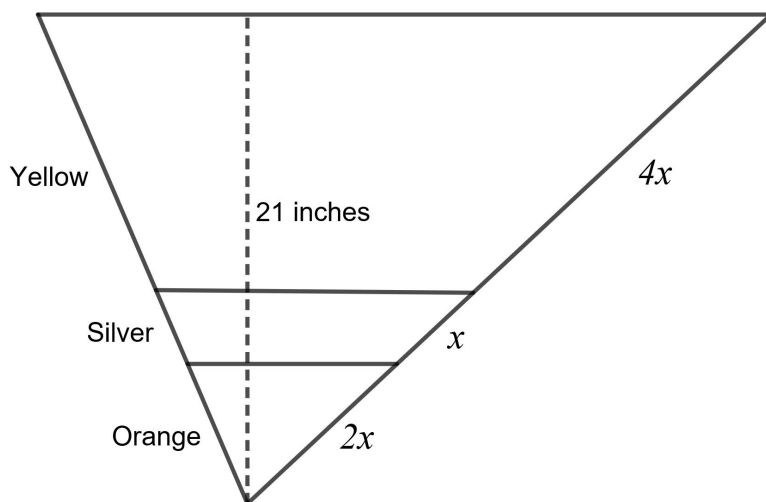
7. In the figure above, $\overline{AB} \parallel \overline{DE}$, $\overline{CD} = \overline{CE}$ and $AE \perp BD$. What is the length of segment BD ?

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



Note: Figure not drawn to scale.

8. (CALCULATOR) FREE RESPONSE: A surveyor wants to find the length, x , in feet, across a canyon as represented in the diagram above. The lengths represented by AC , CE , and DE were determined to be 1400 feet, 350 feet, and 250 feet, respectively. Segments AE and BD intersect at C , and $\angle CED$ and $\angle BAC$ have the same measure. What is the value of x ?



9. FREE RESPONSE: Casey is creating an 21-inch tall triangular flag with three parallel stripes of color on it as shown in the picture above. What is the height of the yellow stripe, in inches?