

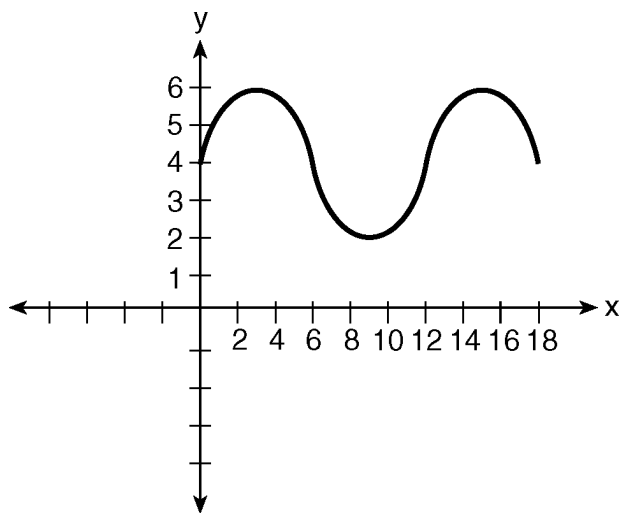
Name: _____

Date: _____

- What is the amplitude of the graph of the equation $y = 2 \cos 3x$?
A. $\frac{2\pi}{3}$ B. 2 C. 3 D. 6π
- What is the maximum value of y for the equation $y = 1 + 3 \sin x$?
A. 1 B. 2 C. 3 D. 4
- What is the range of the function $y = 3 \sin x$?
A. $y \geq 0$ B. $-1 \leq y \leq 1$
C. $y \leq 3$ D. $-3 \leq y \leq 3$
- What is the period of the graph of the equation $y = 2 \sin 3x$?
- What is the maximum value for the function $y = \frac{1}{3} \sin 5x$?

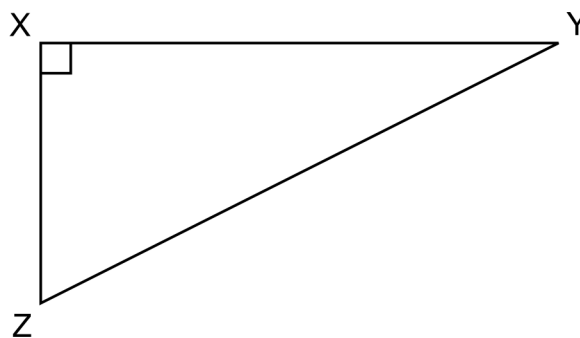
- A. $-\frac{1}{3}$ B. $\frac{1}{3}$ C. $\frac{1}{5}$ D. -5

- What is the amplitude of the function shown in the accompanying graph?



- A. 1.5 B. 2 C. 6 D. 12

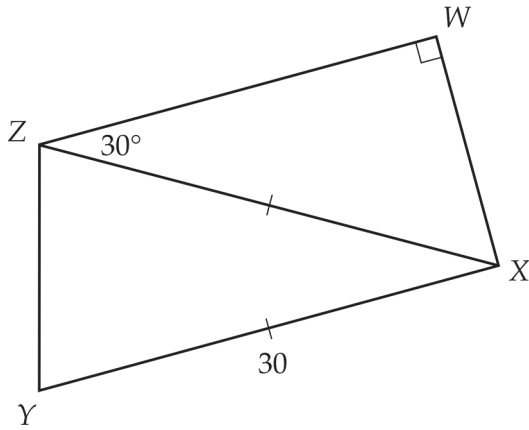
- In $\triangle ABC$, $a = 8$, $b = 9$, and $\cos C = \frac{2}{3}$. Find c .
- In $\triangle ABC$, $a = 2$, $c = 6$, and $\cos B = \frac{1}{6}$. Find b .
- In $\triangle ABC$, $a = 6$, $b = 9$, and $\sin A = \frac{2}{3}$. Find $\sin B$.
- In $\triangle ABC$, $\sin C = \frac{1}{4}$, $c = 6$, and $a = 12$. Find $\sin A$.
- Use the triangle to answer the question.



Which ratio represents the tangent of angle Z?

- A. $\frac{XY}{XZ}$ B. $\frac{XY}{YZ}$ C. $\frac{XZ}{XY}$ D. $\frac{XZ}{YZ}$

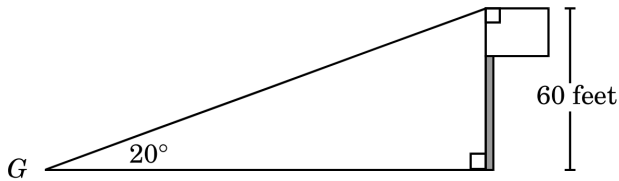
12. Look at the diagram below.



Note: The figure is not drawn to scale.

What is the length of \overline{WX} ?

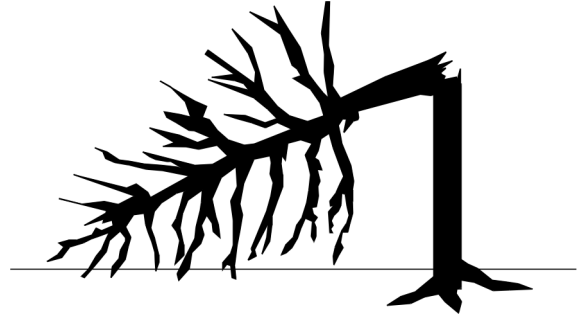
- A. 15 units B. 26 units
 C. 30 units D. 52 units
13. The angle of elevation from point G on the ground to the top of a flagpole is 20° . The height of the flagpole is 60 feet.



Which equation could find the distance from point G to the base of the flagpole?

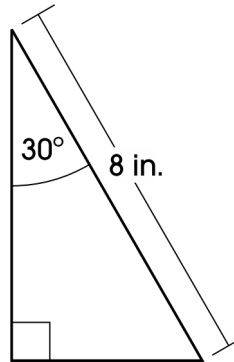
- A. $\sin 20^\circ = \frac{x}{60}$ B. $\sin 20^\circ = \frac{60}{x}$
 C. $\tan 20^\circ = \frac{60}{x}$ D. $\tan 20^\circ = \frac{x}{60}$

14. A dead tree was struck by lightning, causing it to fall over at a point 10 ft up from its base.



If the fallen treetop forms a 40° angle with the ground, *about* how tall was the tree originally?

- A. 13 ft B. 16 ft C. 23 ft D. 26 ft
15. A right triangle has the dimensions as shown in the diagram below.



What is the approximate area of the triangle?

- A. 8.0 square inches B. 11.3 square inches
 C. 13.9 square inches D. 16.0 square inches

1.
Answer: B
2.
Answer: D
3.
Answer: D
4.
Answer: $\frac{2\pi}{3}$
5.
Answer: B
6.
Answer: B
7.
Answer: 7
8.
Answer: 6
9.
Answer: 1
10.
Answer: $\frac{1}{2}$
11.
Answer: A
12.
Answer:
13.
Answer: C
14.
Answer: D
15.
Answer: C