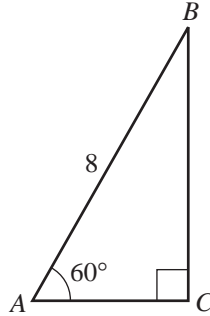


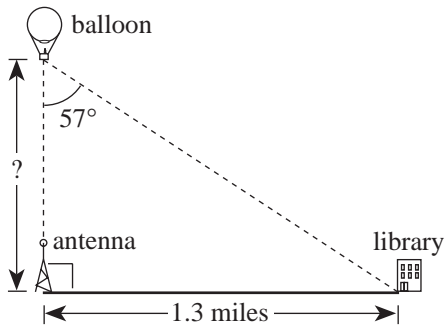
Trigonometry

1. In the right triangle shown below, the length of \overline{AB} is 8 units, $\angle A$ measures 60° , $\sin 60^\circ \approx 0.866$, $\cos 60^\circ \approx 0.5$, and $\tan 60^\circ \approx 1.73$. Approximately how many units long is \overline{BC} , to the nearest hundredth of a unit?



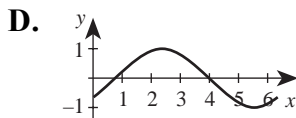
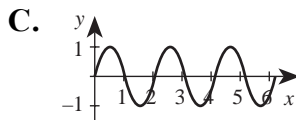
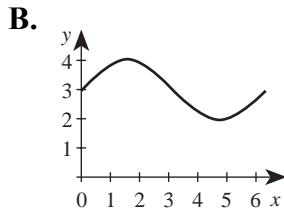
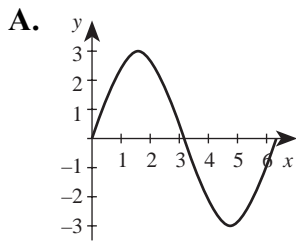
- A. 4.00
B. 4.61
C. 4.80
D. 6.93
E. 9.23
2. If $\sin \alpha = \frac{12}{13}$, and $\cos \alpha = \frac{5}{13}$, then $\tan \alpha = ?$
- A. $\frac{5}{12}$
B. $\frac{7}{13}$
C. $\frac{12}{5}$
D. $\frac{17}{13}$
E. $\frac{60}{13}$
3. If $0^\circ < x^\circ < 90^\circ$ and $\sin x = \frac{1}{2}$, then $\cos x = ?$
- A. $\frac{1}{2}$
B. $\frac{\sqrt{3}}{2}$
C. 2
D. $\frac{\sqrt{3}}{3}$
E. $\frac{2\sqrt{3}}{3}$

4. From a hot air balloon, the angle between a radio antenna straight below and the base of the library downtown is 57° , as shown below. If the distance between the radio antenna and the library is 1.3 miles, how many miles high is the balloon?

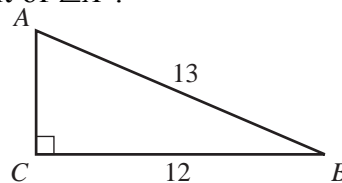


- A. $\frac{1.3}{\sin 57^\circ}$
 B. $\frac{1.3}{\cos 57^\circ}$
 C. $\frac{1.3}{\tan 57^\circ}$
 D. $1.3 \sin 57^\circ$
 E. $1.3 \tan 57^\circ$
5. What is the smallest positive value for x where $y = \sin 2x$ reaches its maximum?
- A. $\frac{\pi}{4}$
 B. π
 C. $\frac{3\pi}{2}$
 D. 2π
 E. $\frac{5\pi}{2}$

6. One of the graphs below is that of $y = A \sin \theta$ for θ between 0 and 6.28 radians, where A is a constant. Which one?



7. In the right triangle below, the length of \overline{AB} is 13 units and the length of \overline{CB} is 12 units. What is the tangent of $\angle A$?



- A.** $\frac{12}{5}$
B. $\frac{13}{12}$
C. $\frac{12}{13}$
D. $\frac{5}{12}$
E. $\frac{5}{13}$

Correct Answers for Sample Trigonometry Items

Item Number	Correct Answer
1	D
2	C
3	B
4	C
5	A
6	A
7	A