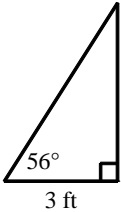


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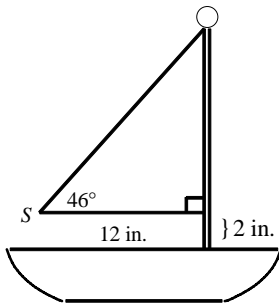
P.I. A.A.44: Find the measure of a side of a right triangle, given an acute angle and the length of another side

1. A ladder leans against a building forming an angle of 56° with the ground. The base of the ladder is 3 feet from the building. Use the cosine to determine the length of the ladder.



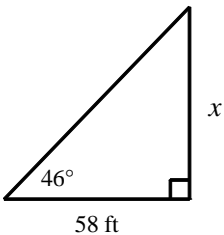
- [A] 4.45 ft [B] 4.97 ft [C] 3.62 ft [D] 5.36 ft

2. You are building a model sailboat. The mast will have two inches of height below the base of the main sail. You want the base of the sail to have a length of 12 in. If you require the angle S in the sail to be 46° , what will be the height of the mast to the nearest tenth inch?



- [A] 14.4 inches [B] 12.4 inches [C] 15.8 inches [D] 12.3 inches

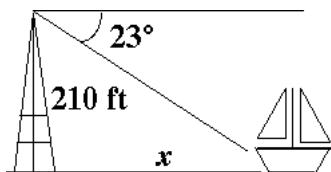
3. A photographer shines a camera light at a particular painting forming an angle of 46° with the camera platform. If the light is 58 feet from the wall with the painting, how high above the platform is the painting?



- [A] 1.04 ft [B] 56.01 ft [C] 0.97 ft [D] 60.06 ft

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4. Which two trigonometric equations could be used to find x ?



[A] $\sin 23^\circ = \frac{210}{x}$, $\cos 67^\circ = \frac{x}{210}$

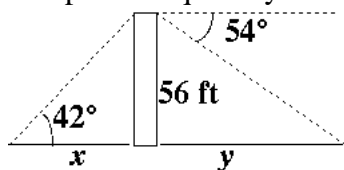
[B] $\tan 67^\circ = \frac{210}{x}$, $\tan 23^\circ = \frac{x}{210}$

[C] $\tan 23^\circ = \frac{210}{x}$, $\tan 67^\circ = \frac{x}{210}$

[D] $\cos 23^\circ = \frac{210}{x}$, $\sin 67^\circ = \frac{x}{210}$

[E] $\sin 23^\circ = \frac{210}{x}$, $\tan 23^\circ = \frac{x}{210}$

5. Compare the quantity in Column A with the quantity in Column B.



Column A

Column B

x

y

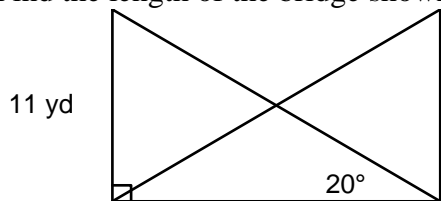
[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

6. Find the length of the bridge shown in the drawing. Round your answer to the nearest hundredth.



[1] D

[2] A

[3] D

[4] C

[5] A

[6] 30.22 yd