Unit 8 Right Triangle Trig Practice Test

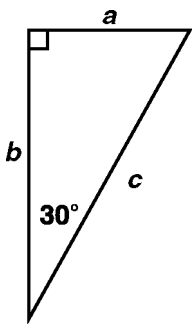
Name: _____ **Date:** _____

1. A 20 meter long cable is used to support a telephone pole, holding it perpendicular to the ground. If the cable forms a 60° angle with the ground, how high up the pole should the cable be attached?

   A. 10 meters B. $10\sqrt{3}$ meters

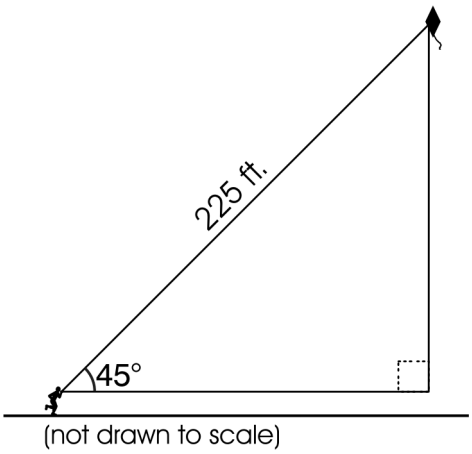
   C. $20\sqrt{2}$ meters D. $20\sqrt{3}$ meters

2. If $a = 3\sqrt{3}$ in the right triangle below, what is the value of b?



   A. 9 B. $6\sqrt{3}$ C. $12\sqrt{3}$ D. 18

3. Use the diagram below to answer the following question(s).

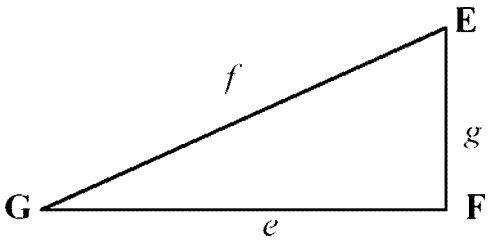


   It is believed that the best angle to fly a kite is 45°. If you fly a kite at this angle and let out 225 feet of string, *approximately* how high above the ground will the kite be?

   A. 250 feet B. 200 feet

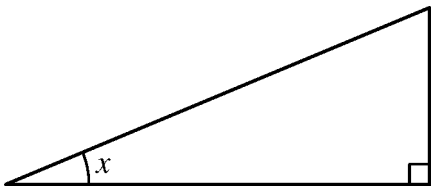
   C. 150 feet D. 100 feet

4. What is the tangent of $\angle G$ in the triangle below?



   A. $\frac{g}{e}$ B. $\frac{e}{g}$ C. $\frac{g}{f}$ D. $\frac{e}{f}$

5. In the figure below, if $\sin x = \frac{5}{13}$, what are $\cos x$ and $\tan x$?



A. $\cos x = \frac{12}{13}$ and $\tan x = \frac{5}{12}$

B. $\cos x = \frac{12}{13}$ and $\tan x = \frac{12}{5}$

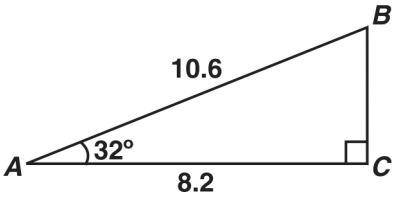
C. $\cos x = \frac{13}{12}$ and $\tan x = \frac{5}{12}$

D. $\cos x = \frac{13}{12}$ and $\tan x = \frac{13}{5}$

6. In $\triangle ABC$ where C is a right angle, $\sin A = \frac{\sqrt{7}}{4}$. What is $\cos B$?

A. $\frac{\sqrt{7}}{4}$ B. $\frac{\sqrt{7}}{3}$ C. $\frac{3}{4}$ D. $\frac{3}{\sqrt{7}}$

7. Right triangle ABC is pictured below.

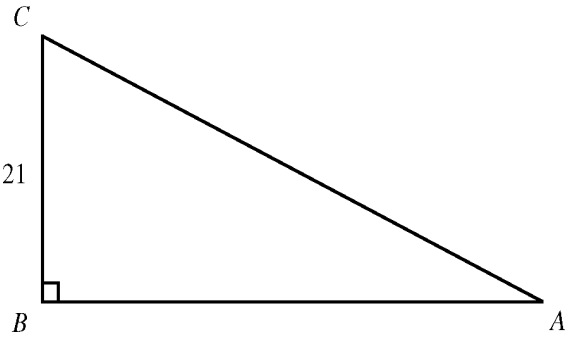


Which equation gives the correct value for BC?

A. $\sin 32^\circ = \frac{BC}{8.2}$ B. $\cos 32^\circ = \frac{BC}{10.6}$

C. $\tan 58^\circ = \frac{8.2}{BC}$ D. $\sin 58^\circ = \frac{BC}{10.6}$

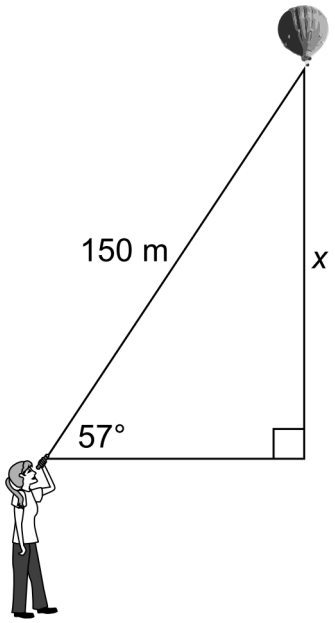
8. In the figure below, $\sin A = 0.7$.



What is the length of $\overline{AC}$?

A. 14.7 B. 21.7 C. 30 D. 32

9. **Use the diagram to answer the question.**



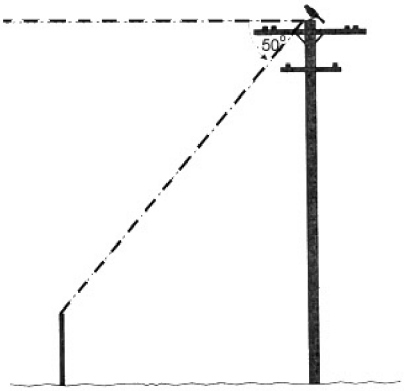
Note: Not to scale

Diana looks up at an angle of 57° and sees a hot air balloon 150 meters away. To the nearest meter, what is the value of x, the height of the hot air balloon above Diana's head?

A. 82 meters B. 126 meters

C. 179 meters D. 231 meters

10. Use the diagram below to answer the question

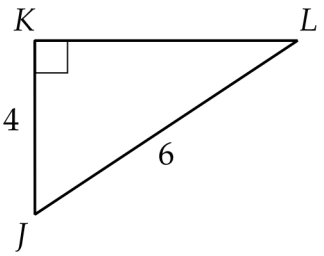


A bird flies from the top of a 40-ft. utility pole on a straight course to the top of a post eight feet above the ground. If the angle of depression is 50°, how far did the bird fly to reach the post? Round your answer to the nearest tenth.

A. 41.8 feet B. 49.8 feet

C. 52.2 feet D. 62.2 feet

11. Right triangle JKL is shown below.

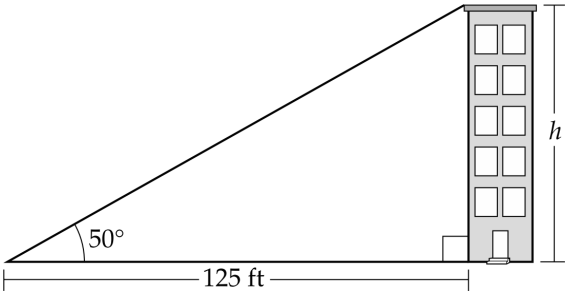


Note: The figure is not drawn to scale.

What is the measure of $\angle J$? Round the answer to the nearest degree.

A. 34° B. 42° C. 48° D. 56°

12. From a point 125 feet from the base of a building, the angle of elevation from the ground to the top of the building is 50°.



Note: The figure is not drawn to scale.

What is the height (h) of the building? Round the answer to the nearest foot.

A. 105 feet B. 149 feet

C. 163 feet D. 194 feet

13. A mountain climber stands on level ground 300 m from the base of a cliff. The angle of elevation to the top of the cliff is 58°. What is the *approximate* height of the cliff?

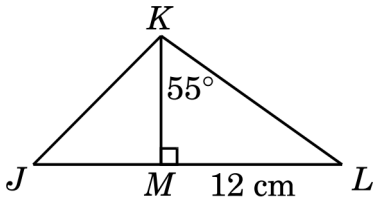
A. 566 m B. 480 m C. 354 m D. 187 m

14. A ladder is leaning against the side of a building. The ladder is 30 feet long, and the angle between the ladder and the building is 15°. *About* how far is the foot of the ladder from the building?

A. 7.76 feet B. 8.04 feet

C. 18.37 feet D. 28.98 feet

15. $\overline{KM}$ is an altitude of $\triangle JKL$, and $\overline{KM} \cong \overline{JM}$. The measure of $\angle LKM$ is 55°, and $ML = 12$ cm.



What is the *approximate* length of $\overline{JK}$?

A. 8.4 cm B. 11.9 cm

C. 20.7 cm D. 24.2 cm

Unit 8 Right Triangle Trig Practice Test 1/27/2020

1.
Answer: B
Objective: M2.4.4
Points: 1

2.
Answer: A
Objective: GE.20.0
Points: 1

3.
Answer: C
Objective: MA 10.G.-
Points: 1

4.
Answer: A
Objective: 50101
Points: 1

5.
Answer: A
Objective: GE.18.0
Points: 1

6.
Answer: A
Objective: CC G.SRT.7
Points: 1

7.
Answer: C
Objective: GE.18.0
Points: 1

8.
Answer: C
Objective: GE.18.0
Points: 1

9.
Answer: B
Objective: LA M-4-H
Points: 1

10.
Answer: A
Points: 1

11.
Answer:
Objective: 2.2.2
Points: 1

12.
Answer:
Objective: 2.2.2
Points: 1

13.
Answer: B
Objective: 1.01
Points: 1

14.
Answer: A
Objective: 1.01
Points: 1

15.
Answer: B
Points: 1