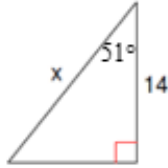


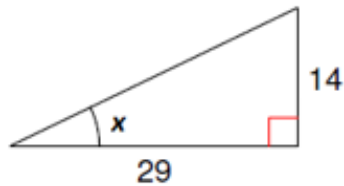
Unit 3 Test
Re-Take Review Handout

Do NOT write on this handout please!

1. Solve for x . Round to the nearest tenth.

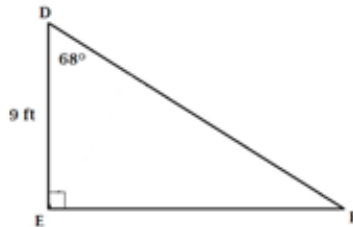


2. Find the measure of angle x . Round your answer to the nearest degree.

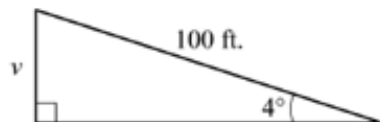


3. Triangle DEF is a right triangle with right angle E , as shown. What is the area of triangle DEF ?

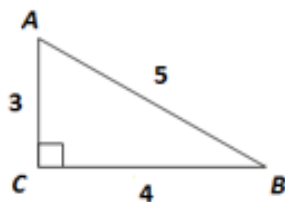
$$A = \frac{1}{2}bh$$



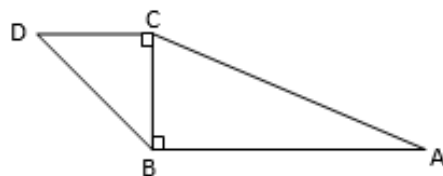
4. A road ascends a hill at an angle of 4° . For every 100 feet of road, how many feet, v , does the road ascend? Round your answer to the nearest foot.



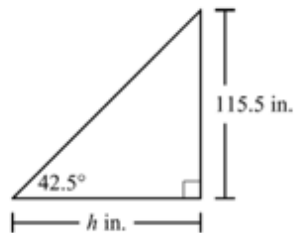
5. Given triangle ABC , what is $m\angle A$ to the nearest degree?



6. In $\triangle ABC$, shown below, the measure of $\angle ABC = 90^\circ$, $AB = 5$, $AC = 13$. What is the length of BD in $\triangle BCD$, if $BC = CD$ and $\overline{BC} \perp \overline{CD}$?



7. According to building codes, the maximum angle of ascent for a staircase in a home is 42.5° . To get from the first floor to the second floor in a new home, a staircase will have a total vertical distance of 115.5 inches. What is the minimum horizontal distance, to the nearest inch, needed for the staircase?



8. A kite string is 100 feet long from the kite to the ground. The string makes a 35° angle with the ground. To the nearest foot, how high off the ground is the kite?



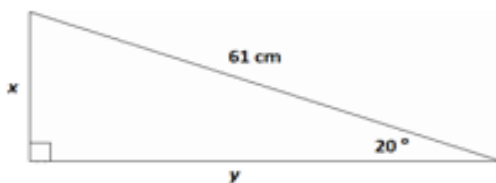
9. In $\triangle RST$, $m\angle R + m\angle T = 90^\circ$ and $\sin R = \frac{\sqrt{3}}{2}$. Which of the following is true?

- a. $\cos T = \frac{\sqrt{3}}{2}$ b. $\cos R = \frac{\sqrt{3}}{2}$ c. $\sin T = \frac{\sqrt{3}}{2}$ d. $\sin S = \frac{\sqrt{3}}{2}$

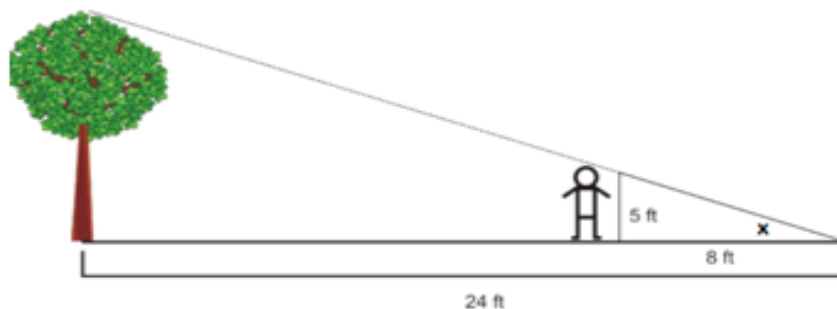
10. In $\triangle ABC$, $\angle A$ and $\angle B$ are complementary angles. Which of the following is true?

- a. $\sin(A) = -\cos(B)$ b. $\sin(A) = \cos(B)$ c. $\sin(A) = \cos(-B)$ d. $\sin A = \cos A$

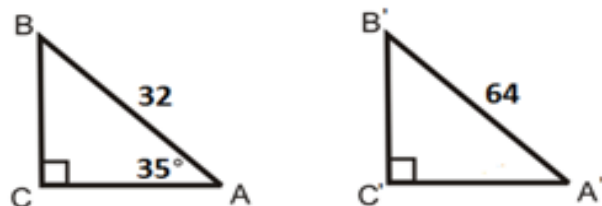
11. Find x and y .



12. Find the value of x .

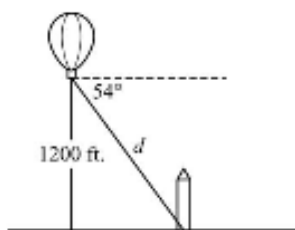


13. Triangle ABC is similar to triangle $A'B'C'$. To the nearest tenth, what is the length of \overline{BC} ?



14. In a right triangle, A and B are acute angles. If $\sin A = \frac{5}{13}$, what is $\cos B$?
15. A 12-foot ladder is leaning against a building at a 75° angle with the ground. Which can be used to find how high the ladder reaches up the side of the building?

16. A hot air balloon is 1200 feet above the ground. The angle of depression from the basket of the hot air balloon to the base of a monument is 54° .



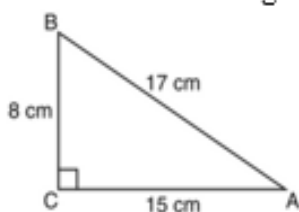
Which equation can be used to find the distance, d , in feet, from the basket of the hot air balloon to the base of the monument?

17. Angle J and angle K are complementary angles in a right triangle. The value of $\tan J$ is $\frac{8}{6}$. What is the value of $\sin J$?

18. Which is true?

- a. $\cos 20^\circ = \sin 70^\circ$
- b. $\cos 20^\circ = \sin 20^\circ$
- c. $\cos 20^\circ = \cos 70^\circ$
- d. $\cos 20^\circ = \sin 160^\circ$

19. Which equation shows a correct trigonometric ratio for angle A in the right triangle below?



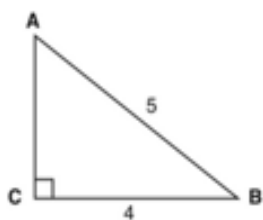
a. $\sin A = \frac{15}{17}$

b. $\tan A = \frac{8}{17}$

c. $\cos A = \frac{15}{17}$

d. $\tan A = \frac{15}{8}$

20. Which equation could be used to find the measure of one acute angle in the right triangle shown below?



a. $\sin A = \frac{4}{5}$

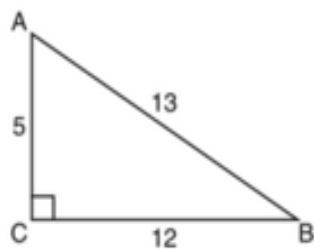
b. $\tan A = \frac{5}{4}$

c. $\cos B = \frac{5}{4}$

d. $\tan B = \frac{5}{4}$

21. In triangle ABC, the measure of $\angle B = 90^\circ$, $AC = 50$, $AB = 48$, and $BC = 14$. Which ratio represents the tangent of $\angle A$?

22. Which ratio represents the tangent of $\angle ABC$?



23. In triangle ABC, $m\angle C = 90^\circ$. If $AB = 5$ and $AC = 4$, which statement is *not* true?

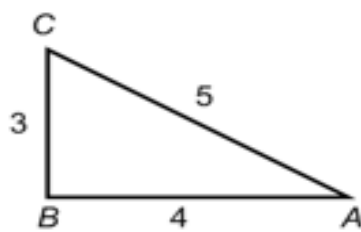
a. $\cos A = \frac{4}{5}$

b. $\tan A = \frac{3}{4}$

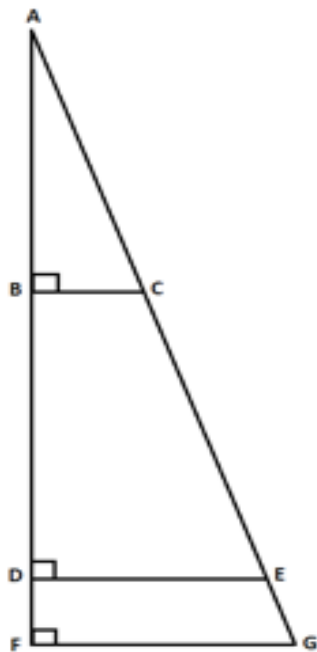
c. $\sin B = \frac{4}{5}$

d. $\tan B = \frac{5}{3}$

24. Using the right triangle below, which trigonometric value is equivalent to $\frac{6}{10}$?



25. Using the right triangle below, which of the following is **not** true?



- a. $\triangle ABC \sim \triangle ADE \sim \triangle AFG$
- b. $\cos \angle BAC = \sin \angle AED$
- c. $\cos \angle ACB = \cos \angle AED$
- d. $\sin \angle DAE = \sin \angle AGF$
26. In the diagram below, $\triangle HGM \sim \triangle JFM$. Which ratio represents the sine of $\angle J$?

