

Trig Review

Name: _____

Date: _____

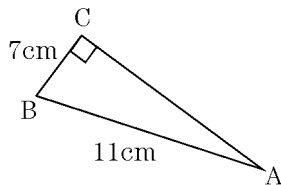
1. A ladder is leaning against a tree. If the angle that the ladder makes with the ground is 60° , and the ladder is 10 feet long, how far is the base of the ladder from the tree?

- A. 5 ft B. 15 ft
C. 20 ft D. 25 ft



2. In the triangle shown, determine $\angle A$ to the nearest degree.

- A. 22° B. 32°
C. 40° D. 58°

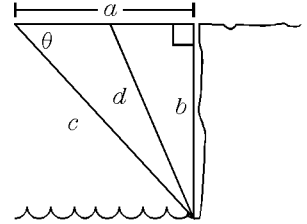


3. From the top of a tower 200 feet high, the angle of depression of a point A on the ground, in the same horizontal plane as the base of the tower, is 48° . Find to the nearest foot the distance of A from the base of the tower.

- A. 180 B. 220 C. 160 D. 140

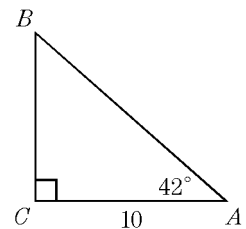
4. In the diagram, $a = 47$ m and angle θ measures 49° . Find the height of the cliff.

- A. 48.3 m
B. 54.1 m
C. 62.3 m
D. 71.6 m



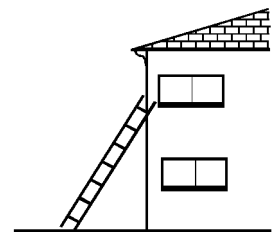
5. What is the length of side \overline{BC} to one decimal place?

- A. 6.7 B. 9.0
C. 11.1 D. 14.9



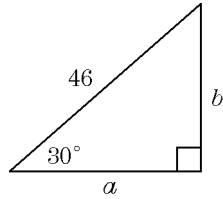
6. A 2.7 meter ladder leans against a house forming a 30° angle with the house. Exactly how far is the base of the ladder from the house?

- A. 1.25 m
B. 1.35 m
C. 1.75 m
D. 2.25 m



7. Find b .

- A. 92 B. 76
C. 23 D. 16



8. Jeremy's sketch pad is shaped like an isosceles triangle. The slanted sides are both 12 inches long and the bottom of the pad is $8\frac{1}{2}$ inches long.

Which of the following is closest to the height of Jeremy's sketch pad, at its tallest point?

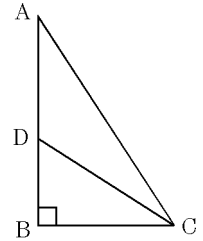
- A. $33\frac{1}{2}$ inches B. $11\frac{1}{4}$ inches
C. $10\frac{1}{4}$ inches D. $8\frac{1}{2}$ inches

9. The smallest angle in a right triangle with sides, 28, 45, and 53 is approximately:

- A. 27.8° B. 31.9° C. 51.5° D. 58.1°

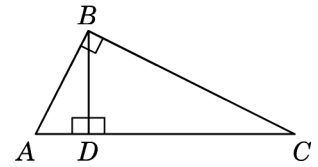
10. In the diagram, $AB = 15$, $DB = 6$, and $BC = 8$. If $m\angle B = 90^\circ$, what is the perimeter of triangle ADC ?

- A. 24 B. 36
C. 42 D. 60



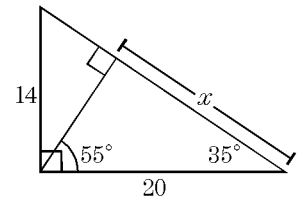
11. In $\triangle ABC$, $AC = 10$, $BC = 8$, $m\angle B = 90^\circ$ and $m\angle BDA = 90^\circ$. How long is \overline{AD} ?

- A. 3.6 B. 4
C. 5.4 D. 9



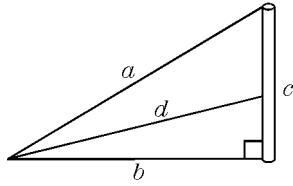
12. Which of the following equations can be used to find the length of x ?

- A. $\sin 35^\circ = \frac{14}{x}$
B. $\cos 35^\circ = \frac{x}{20}$
C. $\cos 35^\circ = \frac{20}{x}$
D. $\tan 55^\circ = \frac{x}{30}$



13. In this diagram the height of the pole is 8 m and side $b = 12$ m. What is the angle of elevation?

- A. 25.2°
 B. 33.7°
 C. 48.1°
 D. 56.3°

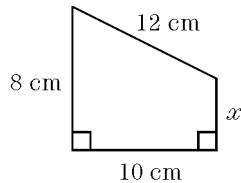


14. Two people leave from the same point. One travels 12 meters north. The other travels 9 meters east. How far apart are they?

- A. 15 meters B. 18 meters
 C. 21 meters D. 25 meters

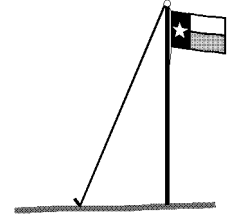
15. In the figure shown find x .

- A. 2 cm
 B. $8 - 2\sqrt{11}$ cm
 C. 3.4 cm
 D. $16 - 2\sqrt{21}$ cm



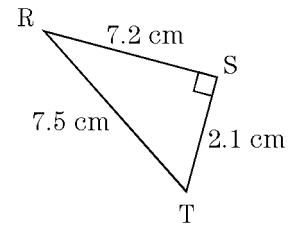
16. The angle of elevation to the top of a flagpole is 52° . If the angle of elevation was measured 23 m from the center of the flagpole's base, what is its height to 1 decimal place?

- A. 18.0 m B. 29.4 m
 C. 30.1 m D. 37.4 m



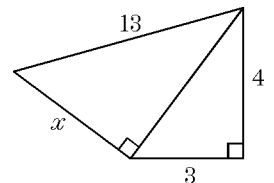
17. In $\triangle RST$, calculate $\angle R$ to the nearest degree.

- A. 16° B. 26°
 C. 73° D. 74°



18. Find the length of side x .

- A. 10 B. 12
 C. 144 D. 194

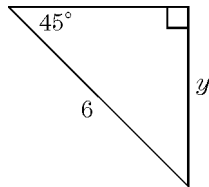


19. From a hot-air balloon 2 km high, the angles of depression to two towns east of the balloon and in line with the balloon are 81.2° and 13.5° . Which of the following best approximates the distance between the two towns?

- A. 7.5 km B. 8 km
 C. 8.5 km D. 9.5 km

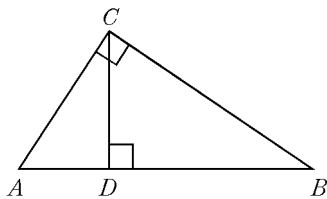
20. Find the exact value of y .

- A. $\sqrt{6}$ B. 3
 C. $2\sqrt{3}$ D. $3\sqrt{2}$



21. Given $\triangle ABC$ as shown with $CD = 6$ and $DB = 12$. The length of \overline{AB} is:

- A. $6\sqrt{2}$
 B. 15
 C. $6(\sqrt{2} + 2)$
 D. 24

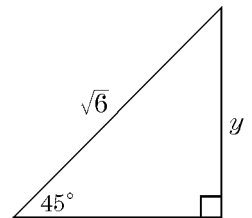


22. How long is the hypotenuse of a right triangle if the longer leg has length $\sqrt{5}$ and the smallest angle is 36° ?

- A. 5 B. $5 - \sqrt{5}$
 C. $\frac{11}{4}$ D. 2.7

23. Find the exact value of y .

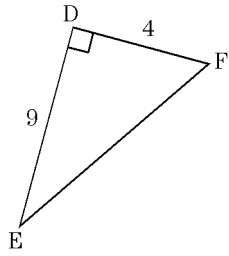
- A. $\sqrt{2}$ B. $\sqrt{3}$
 C. $2\sqrt{2}$ D. $2\sqrt{6}$



24. Which of the following is a false statement?

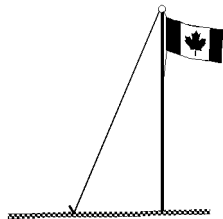
- A. The hypotenuse of a triangle with angles of 30° , 60° , 90° is twice as long as the shorter leg.
 B. The shorter leg of triangle with angles of 30° , 60° , and 90° is $\frac{1}{\sqrt{3}}$ times as long as the longer leg.
 C. The legs of a triangle with angles of 30° , 60° , 90° are unequal in length.
 D. The sides of a triangle with angles of 30° , 60° , 90° are in the ratio 1:2:3.

25. Which trigonometric ratio can be used to find the measure of $\angle F$ using only the lengths shown?

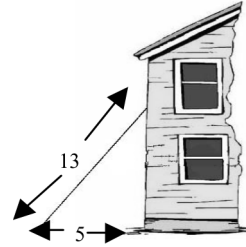


- A. sine only
 B. tangent only
 C. all of the ratios above
 D. no ratios
26. Find, to the nearest integer, the number of feet in the height of a building that casts a shadow 32 feet long when the angle of elevation of the sun is 64° .
- A. 66 B. 67 C. 65 D. 64
27. A wire is attached to the top of a 5 meter tall flagpole and forms a 60° angle with the ground. How long is the wire?

- A. $\frac{5}{\sqrt{3}}$ m
 B. $\frac{10}{\sqrt{3}}$ m
 C. $5\sqrt{3}$ m
 D. $10\sqrt{3}$ m

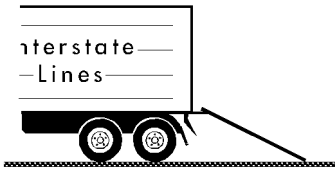


28. A window washer leans a 13-foot ladder against a house. The bottom of the ladder is 5 feet from the house. Look at the diagram. How high is the second-floor window off the ground?



- A. 12 feet B. 8 feet
 C. 18 feet D. $\sqrt{194}$
29. A ladder is leaning against a wall. The angle of depression from the top of a 10 m ladder to where it meets the ground is 20° . Exactly how far away from the wall is the base of the ladder?
- A. $10 \tan 20^\circ$ B. $10 \sin 20^\circ$
 C. $\frac{10}{\tan 20^\circ}$ D. $\frac{10}{\sin 20^\circ}$
30. Jim needs a ladder to be able to climb onto the roof of his house. His house is 15 feet tall and he sets the ladder 5 feet from the house. What is the minimum length ladder (to the nearest tenth) he will need to use to reach the top of his house?

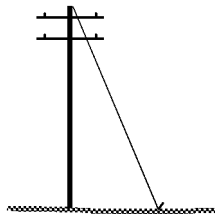
31. One end of a ramp is raised to the back of a truck 1 meter above the ground. If the length of the ramp is 2 meters, what is the measure of the angle the ramp makes with the ground?



- A. 25° B. 30° C. 45° D. 90°

32. A $6\sqrt{2}$ meter long wire is attached to the top of a telephone pole 6 meters tall. What is the exact measure of the angle the wire makes with the ground?

- A. 30° B. 45°
C. 60° D. 90°

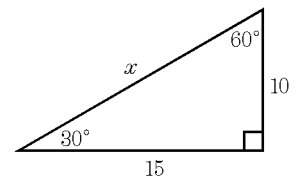


33. Two students are using a measuring tape to measure the length of a room. They measure it to be 13 feet, 6 inches. However, the student at one end is holding the tape 9 inches higher than the student at the other end. What is the difference between their measurement and the true length?

- A. About 9 feet B. About 3.5 feet
C. About $\frac{1}{2}$ foot D. No difference

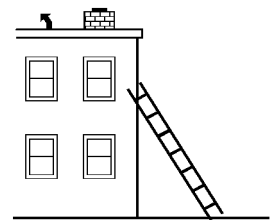
34. Which equation can be used to correctly determine the length of side x ?

- A. $x = 10 \sin 60^\circ$
B. $x = 15 \cos 60^\circ$
C. $x = \frac{15}{\cos 60^\circ}$
D. $x = \frac{15}{\sin 60^\circ}$



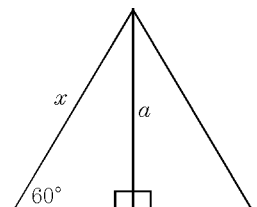
35. A 4 meter ladder leans against a house forming a 45° angle with the house. Exactly how far is the base of the ladder from the house? Express your answer in simple radical form.

- A. $\frac{2}{\sqrt{2}}$ m
B. $\frac{4}{\sqrt{2}}$ m
C. 2 m
D. $2\sqrt{2}$ m

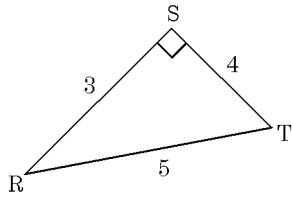


36. Solve for the altitude a in terms of x .

- A. $\frac{x}{2}$ B. $\frac{3\sqrt{2}}{2}$
C. $\frac{x\sqrt{2}}{2}$ D. $\frac{x\sqrt{3}}{2}$



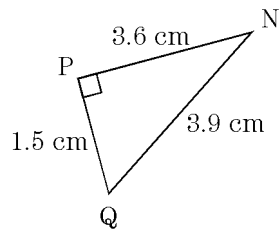
37. Which trigonometric ratio can be used to find the measure of $\angle T$ using only the lengths shown?



- A. sine only
 B. tangent only
 C. all of the ratios above
 D. no ratios

38. In $\triangle NPQ$, calculate $\angle N$ to the nearest degree.

- A. 23° B. 25°
 C. 65° D. 67°

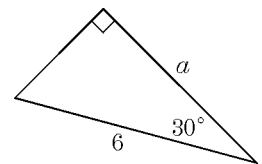


39. Find to the nearest degree a base angle of an isosceles triangle if each leg is 30 and the altitude to the base is 20.

- A. 42° B. 40° C. 44° D. 34°

40. Find the area of the triangle.

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



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1.
Answer: A
Objective: G.SRT.8
2.
Answer: C
Objective: G.SRT.8
3.
Answer: A
Objective: G.SRT.8
4.
Answer: B
Objective: G.SRT.8
5.
Answer: B
Objective: G.SRT.8
6.
Answer: B
Objective: G.SRT.8
7.
Answer: C
Objective: G.SRT.8
8.
Answer: B
9.
Answer: B
10.
Answer: B
Objective: G.SRT.8
11.
Answer: A
Objective: G.SRT.8
12.
Answer: B
Objective: G.SRT.8
13.
Answer: B
Objective: G.SRT.8
14.
Answer:
15.
Answer: B

16.
Answer: B
Objective: G.SRT.8
17.
Answer: A
Objective: G.SRT.8
18.
Answer: B
Objective: G.SRT.8
19.
Answer: B
20.
Answer: D
Objective: G.SRT.8
21.
Answer: B
22.
Answer: B
23.
Answer: B
Objective: G.SRT.8
24.
Answer: D
25.
Answer: B
Objective: G.SRT.8
26.
Answer: A
Objective: G.SRT.8
27.
Answer: B
Objective: G.SRT.8
28.
Answer: A
29.
Answer: B
Objective: G.SRT.8
30.
Answer: 15.9 feet

31.
Answer: B
Objective: G.SRT.8
32.
Answer: B
Objective: G.SRT.8
33.
Answer: D
34.
Answer: D
Objective: G.SRT.8
35.
Answer: D
Objective: G.SRT.8
36.
Answer: D
Objective: G.SRT.8
37.
Answer: C
Objective: G.SRT.8
38.
Answer: A
Objective: G.SRT.8
39.
Answer: A
Objective: G.SRT.8
40.
Answer: A
Objective: G.SRT.8