Geometry Chapter 8 Review Spring 2020

Round answers to the nearest hundredth unless noted otherwise.

1. Find the missing side of this triangle 2. Find the

to the nearest hundredth.

2. Find the missing side.

15

Give answer as a simplified radical.

8



3. Is this set of numbers a Pythagorean triple? 85, 132, 157

4. Does this set of numbers form a right triangle? 19, 80, 81

5. Two sides of a right triangle are given. The third side is a whole number. Find the third side.

a) 24, 70, ____ b) 42, 58, ____

- 6. Is each triangle right, acute, or obtuse?
- a) 44, 117, 125 b) 16, 19, 27 c) 31, 45, 53
- 7. Use $\triangle PQR$ to find each as a ratio. a) TanP b) Cos R c) Sin P



Find the value of x to the nearest hundredth.



1

Find the exact value of each variable. Give non-integer answers in simplified radical form. Rationalize all denominators.



23. During a baseball game there is a popup directly over home plate. The first baseman, who is 90 feet away, sees the ball with an angle of elevation of 58°. How high is the popup?

24. A lookout at the top of the main sail on a ship is 85 feet above sea level. The lookout sees an enemy ship with an angle of depression of 12° . How far away is the enemy ship?

25. A hiker ties a rope to a limb of a nearby tree in order to raise the food supplies off of the ground at night in order to keep them away from the bears. The rope is 50 feet long and is tied to a stake in the ground. The rope make an angle of 68° with the ground. How high off of the ground is the basket of food?

26. A passenger falls overboard. A person at the railing sees the person in the water with an angle of depression of 36°. They toss the overboard passenger a ring attached to a rope that is 80 feet long and it just reaches the overboard passenger. How far below the deck of the ship is the passenger in the water?

27. A plane directly over an island in the ocean is at an altitude of 4000 ft. The pilot sees a disabled boat in the water with an angle of depression of 39°. How far away from the island is the disabled boat?

28. Joan is in a chair on the ground 120 feet from the base of a cliff. Joan sees a rock climber on the cliff with an angle of elevation of 50° . After resting a while reading a book Joan sees the same rock climber but this time with an angle of elevation of 58° .

- a) Has the rock climber moved up or down?
- b) How far has the rock climber moved?

29. A motorcycle ramp is built for a daredevil to jump over some parked cars. The end of the ramp needs to be 9 feet above the ground. If the ramp is 16 feet long, what angle does the ramp make with the ground?

30. A long long ladder is leaned against the wall of a building in order to reach a window that is 12 feet above the ground. The ladder makes a 32° angle with the wall. Find the length of the ladder.

GeometryChapter 8 ReviewANSWERSSpring 20201. 15.492. 173. Yes4. No5. a) 74 b) 406. a) Rightb) Obtusec) Acute.7. a) $TanP=\frac{35}{12}$ b) $CosR=\frac{35}{37}$ c) $SinP=\frac{35}{37}$ 8. x = 26.699. x = 19.2510. $x = 24.78^{\circ}$ 11. x = 5.7512. $x = 49.25^{\circ}$ 13. x = 28.3914. x = 15 $y = 15\sqrt{2}$ 15. x = 46 $y = 23\sqrt{3}$ 16. $x = \frac{21\sqrt{2}}{2}$ $y = \frac{21\sqrt{2}}{2}$ 17. $x = 13\sqrt{2}$ $y = 13\sqrt{2}$ 18. x = 8 $y = 8\sqrt{3}$ 19. $x = 24\sqrt{3}$ $y = 12\sqrt{3}$ 20. $x = 5\sqrt{14}$ $y = 5\sqrt{7}$ 21. $x = \frac{5\sqrt{3}}{2}$ $y = \frac{5}{2}$ 22. $x = \frac{20\sqrt{3}}{3}$ $y = \frac{10\sqrt{3}}{3}$ 23. 144.03 ft24. 399.89 ft25. 46.36 ft.26. 47.02 ft.27. 4939.59 ft.28. a) UPb) 49.03 ft29. 34.23^{\circ}30. 14.15 ft.