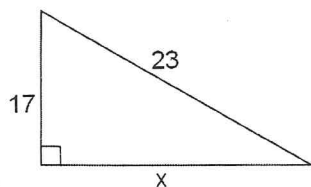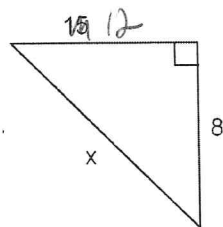# Geometry   Chapter 8 Review   Spring 2014

1. Find the missing side of this triangle to the nearest hundredth.

2. Find the missing side.
    Give answer as a simplified radical.

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

4. Does this set of numbers form a right triangle? 19, 80, 81
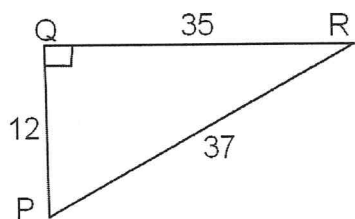
5. Two sides of a right triangle are given. The third side is a whole number. Find the third side.
a) 24, 70, _____   b) 42, 58, _____

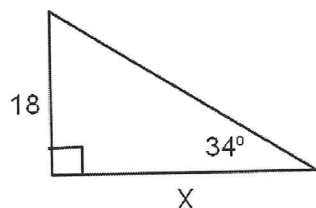6. Is each triangle right, acute, or obtuse?
a) 44, 117, 125   b) 16, 19, 27   c) 31, 45, 53

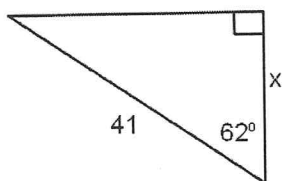7. Use $\triangle PQR$ to find each as a ratio. a) TanP   b) Cos R   c) Sin P
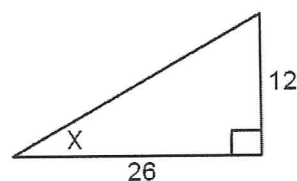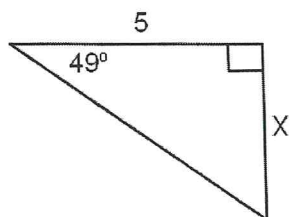

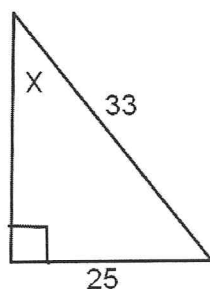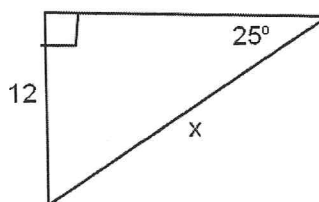Find the value of x to the nearest hundredth.
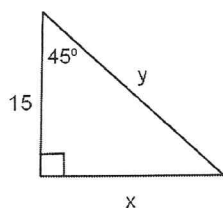
8.

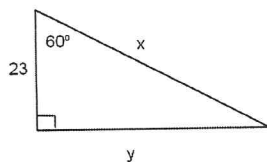

9.

10.

11.

12.

13.

1

Find the exact value of each variable. Give non-integer answers in simplified radical form. Rationalize all denominators.
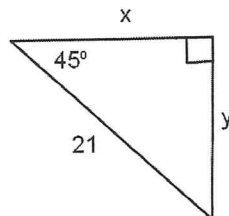
14.

15.

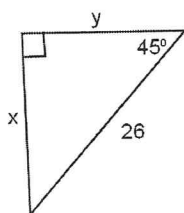

16.

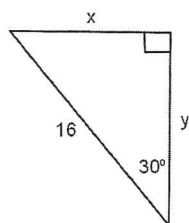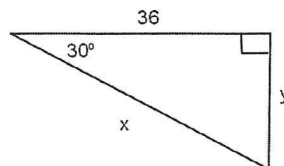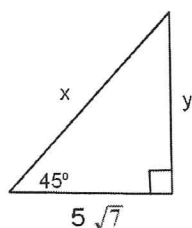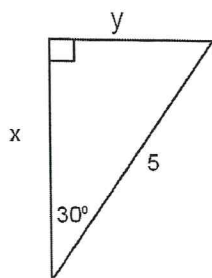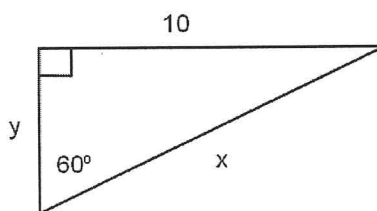17.

17.

18.

19.

20.

21.

22. 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?

23. 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?

24. A hiker throws a rope over 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 the hiker pulls the rope tight and sees the food basket with an angle of elevation of $68°$. How high off of the ground is the basket of food?

25. 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?

26. 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?

27. 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?

2

Geometry   Chapter 8 Review   ANSWERS   Spring 2014

1. 15.49   2. $4\sqrt{13}$ 3. Yes   4. No   5. a) 74   b) 40
6. a) Right   b) Obtuse   c) Acute.   7. a) $TanP=\frac{35}{12}$ b) $CosR=\frac{35}{37}$ c) $SinP=\frac{35}{37}$
8. $x = 26.69$ 9. $x = 19.25$ 10. $x = 24.78°$ 11. $x = 5.75$ 12. $x = 49.25°$
13. $x = 28.39$ 14. $x = 15$ $y = 15\sqrt{2}$ 15. $x = 43$ $y = 23\sqrt{3}$ 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. $x = 5\sqrt{14}$ $y = 5\sqrt{7}$
20. $x = \frac{5\sqrt{3}}{2}$ $y = \frac{5}{2}$ 21. $x = \frac{20\sqrt{3}}{3}$ $y = \frac{10\sqrt{3}}{3}$ 22. 144.03 ft   23. 399.89 ft
24. 46.36 ft.   25. 47.02 ft.   26. 4939.59 ft.   27. a) UP   b) 49.03 ft