

Unit 4: Right Triangle Trigonometry

PRACTICE · SET 2

Name: _____ Date: _____

Show all work. Round decimal answers to the nearest tenth unless told otherwise. Use a calculator for trig values.

1. A right triangle has legs of length 6 and 8. Find the length of the hypotenuse.

Answer: _____

2. A right triangle has one leg of length 5 and a hypotenuse of length 13. Find the length of the other leg.

Answer: _____

3. In a right triangle, the side opposite angle A has length 7 and the hypotenuse has length 25. Find $\sin(A)$ as a fraction.

Answer: _____

4. In a right triangle, the side adjacent to angle B has length 9 and the hypotenuse has length 15. Find $\cos(B)$ as a fraction.

Answer: _____

5. In a right triangle, the side opposite angle C has length 8 and the side adjacent to angle C has length 15. Find $\tan(C)$ as a fraction.

Answer: _____

6. A right triangle has legs of length 9 and 12. Find the length of the hypotenuse.

Answer: _____

7. In a right triangle, angle X measures 30° and the hypotenuse has length 20. Find the length of the side opposite angle X (use $\sin 30^\circ = 0.5$).

Answer: _____

8. In a right triangle, angle Y measures 40° and the adjacent side has length 12. Find the length of the opposite side using tangent. Round to the nearest tenth. ($\tan 40^\circ \approx 0.839$)

Answer: _____

9. In a right triangle, angle Z measures 55° and the hypotenuse has length 18. Find the length of the side adjacent to angle Z using cosine. Round to the nearest tenth. ($\cos 55^\circ \approx 0.574$)

Answer: _____

10. In a right triangle, the side opposite an angle has length 6 and the hypotenuse has length 10. Find the measure of the angle using inverse sine, rounded to the nearest degree. ($\sin^{-1}(0.6) \approx 36.87^\circ$)

Answer: _____

11. A right triangle has both legs equal to 7. Find the length of the hypotenuse in exact form using a square root.

Answer: _____

12. In a right triangle, the two legs measure 20 and 21. Find $\sin$ of the angle opposite the leg of length 20, as a fraction. (The hypotenuse is 29.)

Answer: _____