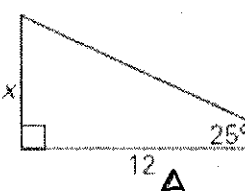
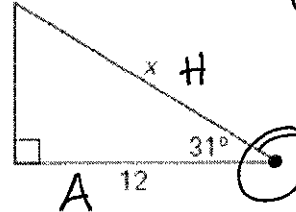
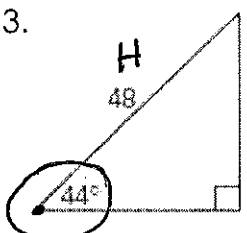



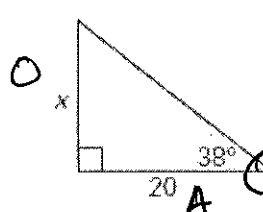
Using Trig Ratios to Find the Missing Side or Angle of a Right Triangle

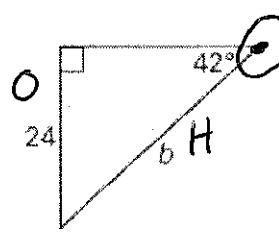
1.  $\tan \theta = \frac{O}{A}$
 $12 \cdot \tan(25) = \frac{x}{12}$
 $12 \tan(25) = x$
 $5.6 = x$

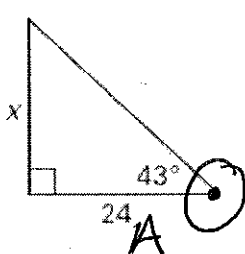
2.  $\cos(\theta) = \frac{A}{H}$
 $\cos(31) = \frac{12}{x}$
 $x = \frac{12}{\cos(31)}$
 $x \approx 14$

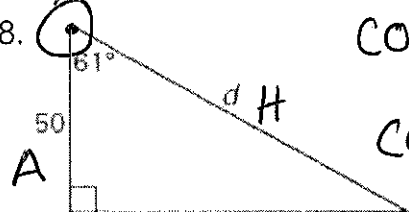
3.  $\sin \theta = \frac{O}{H}$
 $\sin(44) = \frac{x}{48}$
 $48 \sin(44) = x$
 $33.3 = x$

4.  $\tan \theta = \frac{O}{A}$
 $\tan(67) = \frac{18}{x}$
 $x = \frac{18}{\tan(67)}$
 $x = 7.6$

5.  $\tan \theta = \frac{O}{A}$
 $\tan(38) = \frac{x}{20}$
 $20 \tan(38) = x$
 $15.6 = x$

6.  $\sin \theta = \frac{O}{H}$
 $\sin(42) = \frac{24}{b}$
 $b = \frac{24}{\sin(42)}$
 $b = 35.9$

7.  $\tan \theta = \frac{O}{A}$
 $\tan(43) = \frac{x}{24}$
 $24 \tan(43) = x$
 $22.4 = x$

8.  $\cos \theta = \frac{A}{H}$
 $\cos(61) = \frac{50}{d}$
 $d = \frac{50}{\cos(61)}$
 $d = 103.1$

Key

Trigonometry Sides Maze!

Directions: Start at the top **LEFT**. Solve for x . (Round to hundredths) Use your solutions to make your way through the maze to get to the end. Circle the answers for your route.

The maze consists of 25 octagonal cells arranged in a 5x5 grid. The path is as follows:

- Row 1:** Start! (triangle: 38° , side 20, hypotenuse x) → 15.76 → 24 (triangle: 39° , side 24, hypotenuse x) → 19.43 → 12 (triangle: 41° , side 12, hypotenuse x) → 9.06 → x (triangle: 65° , side 12, hypotenuse x)
- Row 2:** 12.31 → 10 → 7.87 → 25.73
- Row 3:** x (triangle: 44° , side 18, hypotenuse x) → 18.64 → 20 (triangle: 60° , side 20, hypotenuse x) → 17.32 → 13 (triangle: 38° , side 13, hypotenuse x) → 17.26 → 16 (triangle: 68° , side 16, hypotenuse x)
- Row 4:** 17.38 → 17.61 → 10.16 → 14.83
- Row 5:** 25 (triangle: 25° , side 20, hypotenuse x) → 16.44 → 23 (triangle: 54° , side 23, hypotenuse x) → 18.54 → 21 (triangle: 62° , side 21, hypotenuse x) → 12.43 → 16 (triangle: 34° , side 16, hypotenuse x)
- Row 6:** 18.13 → 13.52 → 9.86 → 8.95
- Row 7:** 15 (triangle: 48° , side 15, hypotenuse x) → 41.51 → x (triangle: 56° , side 28, hypotenuse x) → 45.67 → 34 (triangle: 30° , side 34, hypotenuse x) → 29.44 → 36 (triangle: 52° , side 36, hypotenuse x)
- Row 8:** 20.18 → 23.21 → 17.6 → 46.08
- Row 9:** x (triangle: 51° , side 21, hypotenuse x) → 16.32 → x (triangle: 68° , side 16, hypotenuse x) → 39.6 → x (triangle: 47° , side 12, hypotenuse x) → 8.18 → **END!**