

SOLVE THE FOLLOWING PROBLEMS. PLACE YOUR ANSWERS IN THE BOXES PROVIDED.

SHOW WORK/CALCULATIONS in space around problems.

EXPONENTS

$5^3 =$

$(5^3)(5^3) =$

$(5^{-2})(5)^{-2} =$

$6^{-2} =$

$(5^{-2})(5^3) =$

$5^0 =$

POWERS OF TEN

$(8.0 \times 10^5) (2.0 \times 10^3) =$

$(8.0 \times 10^5) (2.0 \times 10^{-3}) =$

$(8.0 \times 10^5) / (2.0 \times 10^3) =$

$(8.0 \times 10^5) - (2.0 \times 10^3) =$

ALGEBRA: Solve for unknown value 'x'. Use y=2 and z=6.

$2x + 5 = 15$

$x/y + z = 11$

$x + y = 11$

$x^2 + 2y - z = 14$

$x + yz = 11$

$x^2z - y = 52$

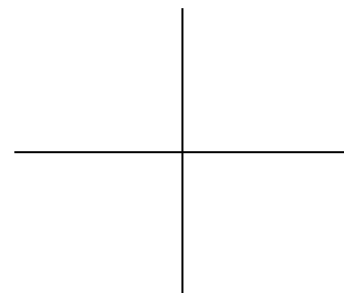
Solve for x & y that satisfy the following two equations:

$x + y = 4 \quad \text{and} \quad 2x - y = 5$

Plot the above two equations on the axes at right. Label the axes.

Plot the following coordinates on the axes at right.

(2, -2) (0, 5) (-2, -2) (-4, 4)



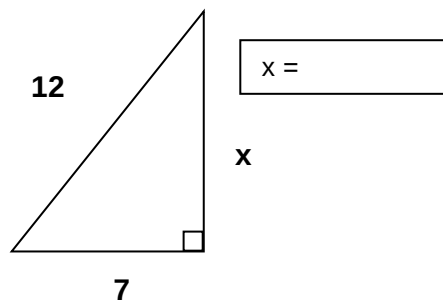
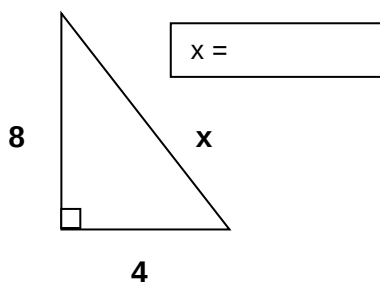
Find the solution for x for the following using the *Quadratic Equation*:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad \text{where: } ax^2 + bx + c = 0$$

$3x^2 - 5x = 2$

$4x^2 - 10 = 0$

GEOMETRY: Find 'x' in each of the following triangles using *Pythagorean's Theorem*: $a^2 + b^2 = c^2$



**PHYSICS 101 WEB
MATH REVIEW**

NAME:

AREA and VOLUME

12

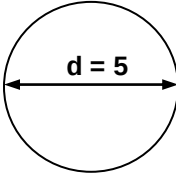


7

Perimeter =

Area =

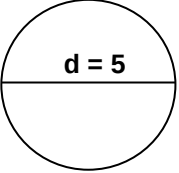
Sphere



d = 5

Volume =

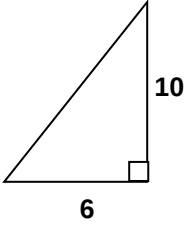
Surface Area =



d = 5

Circumference =

Area =



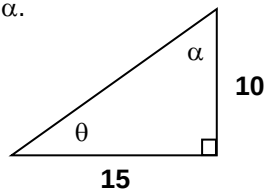
10

6

Perimeter =

Area =

TRIGONOMETRY: Find angles θ and α .



$\theta =$

$\alpha =$

Find θ :

$6 \tan \theta = 2.5$

$\theta =$

$6 \sin \theta = 2.5 \cos \theta$

$\theta =$

Solve using $\theta=30^\circ$, $\alpha=45^\circ$, and $v_0 = 10$.

$v_0 \cos \theta =$

$v_0 / \cos \theta =$

$v_0 \sin \alpha =$

$v_0 / \sin \alpha =$

PERCENT ERROR: Calculate percent error using: $\% \text{ Error} = (\text{Actual} - \text{Measured}) / \text{Actual} \times 100$

Use: Actual = 6.5, and Measured = 6.35.

$\% \text{ error} =$

USING VARIABLES: Substitution

Solve the following equations. Use $y_0=10$, $t=10$, $V_0=30$, $V_1=40$, $a=4.5$, $y=20$, and $g=-9.8$.

1. $V = V_0 + a t$

$V =$

3. $V = V_1 + g t$

$V =$

2. $V^2 = V_1^2 + 2 g y$

$V =$

4. $y = y_0 + V_1 t + \frac{1}{2} a t^2$

$y =$