

Name _____ Date _____

Solve the equation for y.

① Get x by itself.
-rewrite equation
② Isolate y
-simplify equation

$$1. \quad 6y + x = 8$$

$$\quad \quad \quad -x \quad -x$$

$$\frac{6y}{6} = \frac{8}{6} + \frac{-1x}{6}$$

$$\boxed{y = \frac{4}{3} + \frac{-1}{6}x}$$

$$2. \quad 10x + 5y = 15$$

$$\quad \quad \quad -10x \quad -10x$$

$$\frac{-5y}{-5} = \frac{15}{-5} + \frac{-10x}{-5}$$

$$\boxed{y = -3 + 2x}$$

$$3. \quad 20 = 5x + 10y$$

$$\quad \quad \quad -5x \quad -5x$$

$$\frac{10y}{10} = \frac{20}{10} + \frac{-5x}{10}$$

$$\boxed{y = 2 + \frac{-1}{2}x}$$

$$4. \quad 3x + \frac{1}{5}y = 7$$

$$\quad \quad \quad -3x \quad -3x$$

$$\frac{5}{1} \cdot \frac{1}{5}y = (7 + -3x) \frac{5}{1}$$

$$\boxed{y = 35 + -15x}$$

$$5. \quad 6 = 4x + 9y$$

$$\quad \quad \quad -4x \quad -4x$$

$$\frac{9y}{9} = \frac{6}{9} + \frac{-4x}{9}$$

$$\boxed{y = \frac{2}{3} + \frac{-4}{9}x}$$

$$6. \quad 6y + 1.5x = 8$$

$$\quad \quad \quad -1.5x \quad -1.5x$$

$$\frac{6y}{6} = \frac{8}{6} + \frac{1.5x}{6}$$

$$\boxed{y = \frac{4}{3} + \frac{1}{4}x}$$

Error Analysis: Describe and correct the error in solving the equation.

7.

$$\times \quad 2x - y = 5$$

$$\quad \quad \quad y = -2x + 5$$

The student did not bring down the negative with the y-variable. The next step should read $-y = -2x + 5$

$$\textcircled{1} \quad 2x + -y = 5 \quad \textcircled{1} \text{ KFC}$$

$$\quad \quad \quad -2x \quad -2x$$

$$\textcircled{2} \quad \frac{-1y}{-1} = \frac{5}{-1} + \frac{-2x}{-1}$$

$$\textcircled{3} \quad -1y = -5 + 2x$$

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

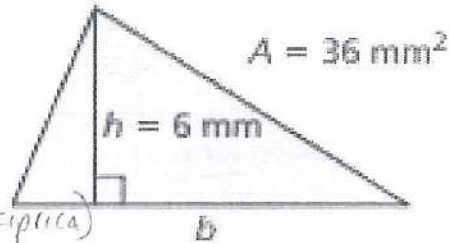
② Get rid of 2x
-rewrite

③ Isolate y by dividing by -1.

④ Simplify

8. a. Write a formula for the area A of a triangle.

$$A = \frac{1}{2}bh$$



b. Solve the formula for b.

$\frac{2}{1} \cdot A = \frac{1}{2}bh \cdot \frac{2}{1} \rightarrow$ Get rid of $\frac{1}{2}$ (multiply reciprocal)

$$\frac{2A}{h} = \frac{bh}{h}$$

- rewrite

$\rightarrow$ Isolate b (divide by h)

$$b = \frac{2A}{h}$$

c. Use the new formula to find the base of the triangle.

$$b = \frac{2A}{h} = \frac{2(36)}{6} = \frac{72}{6} = 12$$

$$b = 12 \text{ mm}$$

$$A = 36 \quad h = 6$$

9. Solve the formula for w.

$$V = lwh$$

$$\frac{V}{lh} = \frac{lwh}{lh}$$

multiplying w with l and h, so undo through division

$$w = \frac{V}{lh}$$

10. Solve the formula for r.

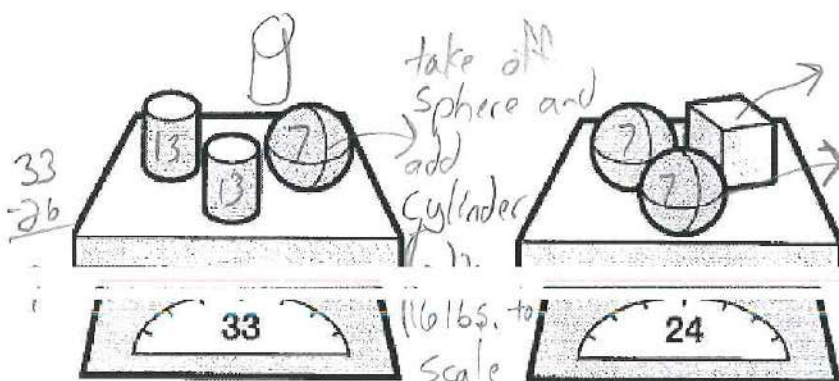
$$\frac{2}{1} \cdot f = \frac{1}{2}(r + 6.5) \cdot \frac{2}{1}$$

$$2f = r + 6.5$$

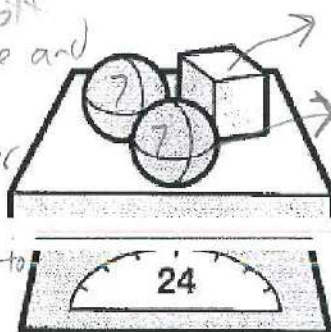
$$-6.5 \quad -6.5$$

$$r = 2f - 6.5$$

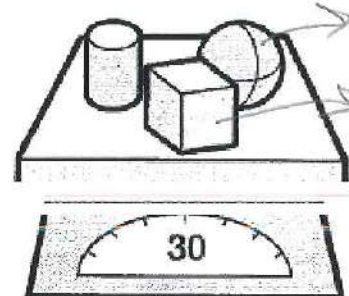
11. Weighing Blocks 3



$$A \quad \begin{array}{r} 33 \\ + 6 \\ \hline 39 \end{array} \quad \begin{array}{l} 3 \text{ cylinders} = 39 \\ \text{so } 1 \text{ cylinder} = 13 \end{array}$$



So $2 \text{ cylinder} = 1 \text{ sphere} + 6$



C

1. Find the weight of each block.

cylinder = 13 pounds

sphere = 7 pounds

cube = 10 pounds