

11.1 Classwork: Literals, equations with multiple unknowns**Do not use a calculator or convert values to decimals**

Reference: Chili Math, Solving Literal Equations

<https://www.chilimath.com/lessons/intermediate-algebra/literal-equations/>**Simplify each expression by "collecting like terms"**

1. (a) $2x + 4 - x + 11$

$$= x + 15$$

(d) $2a + \sqrt{5} + 7a + 3\sqrt{5}$

$$= 9a + 4\sqrt{5}$$

(b) $5y - 4 - 7y + y$

$$= -y - 4$$

(e) $x\sqrt{3} - x\sqrt{3} + x + 1$

$$= x + 1$$

(c) $14 + 5\pi - 2\pi + 4$

$$= 3\pi + 18$$

(f) $3\pi x + 4 + 2\pi x - 7$

$$= 5\pi x - 3$$

Solve each equation for the unknown

One step.

2. (a) $2x = 12$

$$x = 6$$

(c) $3a = \pi$

$$a = \frac{\pi}{3}$$

(b) $4z = -8$

$$z = -2$$

(d) $2y = \sqrt{5}$

$$y = \frac{\sqrt{5}}{2}$$

Two steps.

3. (a) $7x + 4 = 11$

$$7x = 7$$

$$x = 1$$

(c) $4m - \sqrt{2} = 3\sqrt{2}$

$$4m = 4\sqrt{2}$$

$$m = \sqrt{2}$$

(b) $-4b + 5 = -3$

$$-4b = -8$$

$$b = 2$$

(d) $2y - 3\pi = \pi$

$$2y = 4\pi$$

$$y = 2\pi$$