

A-1 SOLVING EQUATIONS

Steps for solving equations:

- 1) Simplify
- 2) Get var. on 1-side
- 3) Add or subt.
- 4) Mult. or div.
- 5) Check - optional

Examples:

$$1) \quad 3x + 7 = -20$$

$$\quad \quad \quad \underline{-7 \quad -7}$$

$$\quad \quad \quad \frac{3x}{3} = \frac{-27}{3}$$

$$\quad \quad \quad x = -9$$

$$2) \quad 10 = -1 + 4x - 9 + x$$

$$\quad \quad \quad 10 = -10 + 5x$$

$$\quad \quad \quad 20 = 5x$$

$$\quad \quad \quad 4 = x$$

$$3) \quad 3(5 - 2x) = 4x + 22$$

$$\quad \quad \quad 15 - 6x = 4x + 22$$

$$\quad \quad \quad 15 = 10x + 22$$

$$\quad \quad \quad -7 = 10x$$

$$\quad \quad \quad -7/10 = x$$

$$4) \quad \frac{3}{5}n - 6 = -9$$

$$\quad \quad \quad \frac{3}{5}n = -3$$

$$\quad \quad \quad \frac{5}{3} \cdot \frac{3}{5}n = -3 \cdot \frac{5}{3}$$

$$\quad \quad \quad n = -5$$

$$5) \quad 11 = 2(6x + 9) - (1 + 12x)$$

$$\quad \quad \quad 11 = 12x + 18 - 1 - 12x$$

$$\quad \quad \quad 11 = 12x - 12x + 18 - 1$$

$$\quad \quad \quad 11 = 18 - 1$$

$$\quad \quad \quad 11 = 17$$

No Solution

$$6) \quad \frac{2}{3}y + \frac{1}{6} = 2 - \frac{y}{12}$$

$$\quad \quad \quad \frac{8}{12}y + \frac{2}{12} = \frac{24}{12} - \frac{y}{12}$$

$$\quad \quad \quad 8y + 2 = 24 - y$$

$$\quad \quad \quad 9y + 2 = 24$$

$$\quad \quad \quad 9y = 22$$

$$\quad \quad \quad y = 22/9$$

Change **all** to common denominators

Cancel out the denominators

Write an algebraic expression to represent each verbal expression.

<p>7) the sum of 6 and twice a number</p> $6 + 2n$	<p>8) ten less than a number squared</p> $n^2 - 10$	<p>9) the product of six and the difference of a number and two</p> $6(n - 2)$
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10) A banquet room can seat a maximum of 70 people. The coach, trainer, principal and vice principal have invited the award winning girl's tennis team to a celebration dinner at this particular venue. If the tennis team consists of 22 girls, how many guests can each girl bring?

Let n = the number of guests each girl can bring

$$22n + 26 = 70$$

$$22n = 44$$

$$n = 2$$

