

Algebra Workshop

Name: _____

Worksheet 1

1. Evaluate the following expressions:

(a) $3 - 2 \cdot 5 + 4$

(b) $3 \cdot 7 - 2 \cdot 3^2 - 5$

(c) $(2)(-6) - 3(4 - 5 \cdot 3)$

(d) $2(4 - 7)^2$

(e) $4 \cdot 2^3 - 5$

(f) $\frac{8 + 4 \cdot 5}{2 \cdot 7}$

2. Suppose I choose a number. I multiply this number by 3; then I add 10. The result is 46.

(a) Write an equation that describes this situation.

(b) Solve the equation to find the original number.

3. Suppose I choose a number. I add 4 to this number; then I multiply by 3. The result is 15.

(a) Write an equation that describes this situation.

(b) Solve the equation to find the original number.

4. For each of the following equations, write a description of what the equation means (similar to the descriptions in problems 2 and 3). In addition, you should solve the equation.

(a) $\frac{x}{2} - 5 = 7$

(b) $\frac{x+3}{4} = 7$

5. Solve the following equations:

(a) $3x - 4 = 5$

(b) $5x + 1 = 7$

(c) $3(x + 2) = 9$

(d) $4(x + 1) = 8$

(e) $\frac{3x}{7} = 9$

(f) $\frac{x}{2} - 4 = 6$

(g) $\frac{3x - 5}{4} = 4$

(h) $\frac{x + 3}{5} - 2 = 3$

6. Solve the following equations:

(a) $10 = 4 + 2x$

(b) $23 - x = 9$

(c) $x - 3 = 7x$

(d) $2(x - 1) = 5x + 4$

(e) $3(x - 2) + 4(x + 1) = 12$

(f) $2(3x - 5) - 3(x - 2) = 5$