

BLC150–Algebra Workshop

Homework 1

Name: _____

Which problems gave you problems? List them here: _____

1. Solve these.

a. $(-5)(-3) - 2 \cdot 7 =$	b. $3(5 - 7) - 2^3 + 16 =$
c. $(7 - 5)^3(23 - 24) + 11 =$	d. $3 - \frac{10}{4+1} + (3)(-2) - (-9) =$

2. Write an algebraic expression that describes the situation.

a. Suppose I choose a number. I then multiply it by 5. Then I subtract 3.

b. Suppose I choose a number. I then subtract 4 from it. Then I divide it all by 5.

3. Now, do the other way around. Write a description of the following algebraic expressions.

a. $5x - 7$

b. $3(x + 1)$

c. $\frac{x+4}{7}$

d. $\frac{2x+3}{4}$

4. Solve the following equations for x :

a. $9 = 3(x - 5)$	b. $\frac{4+2x}{2} - 1 = 8$
c. $\frac{3x}{2} = 9$	d. $1.2x - 2 = 4$
e. $\frac{x}{2} + 3 = 5$	f. $0.85x = 2.55$
g. $7 = 3x + 1$	h. $4x + 3 = 7$

5. Solve the following equations for x :

a. $x = 5x - 4$	b. $x + 3x = 8$
c. $3(x - 2) = x$	d. $5(x - 3) + 3x = 17$
e. $3.5x = 1.1x + 12$	f. $5x = 3x + 12$
g. $11 - x = 4$	h. $0.25x + x = 10$

6. Solve the following equations for x :

a. $3(x + 1) + 4(x - 2) = 9$

b. $2(3x + 1) - 3(x + 1) = 11$

c. $3(7 - x) - 4(2x - 5) = -25$

7. Simplify the following expressions:

a. $3(2x - 4) - 4(3x + 6)$

Get it into the form $a(x + b)$, where a and b are integers.

b. $5(2x + y) + 2(2x - 6y)$

Get it into the form $a(bx - y)$, where a and b are integers.

8. Solve for y in the following equations:

a. $3(x + 2) - y = 4x$

The form could be $y = a - x$.

b. $3x - 4(y + 2) = 6y - 9$

The form could be $y = \frac{ax+b}{c}$.



9. Kareem has a basket full of beautiful porcini mushrooms (ceps, boletus). He gives 20 of them to his mother. Then he sautés up and eats half of his remaining mushrooms for lunch. After eating, Kareem looks in the bag and sees that only 15 mushrooms remain. How many mushrooms did he start out with?

- Write up an equation to describe the situation.
- Solve the equation.

10. Morticia Addams ordered 40 rubber tarantulas from Amazon. She was delighted by their realism and high quality. She gave two trantulas to each of her best friends. This left her with 8 for herself.

How many best friends does Morticia have?

- Write an equation to describe the situation.
- Solve the equation.



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