

Algebra I Skills Review More Important Practice

Please make sure you are comfortable with these basic skills as well.

Please ask me questions, and I will guide you to an understanding and/or show you an example! 😊

1. Label each as irrational, imaginary, an integer, and/or a whole number.
(Some expressions may have TWO labels.)

A. $\sqrt{1}$

B. $-\sqrt{225}$

C. $\sqrt{0}$

D. $\sqrt{-9}$

E. $\sqrt{5}$

F. $\sqrt{-64}$

G. $\sqrt{-49}$

H. $\sqrt{12}$

2. Write an algebraic expression, equation, or inequality for each situation.

a. Three less than the product of a number and 4.

b. The difference of two numbers is -8.

c. The amount of dogs, d, is half the amount of cats, c

d. the total cost of plums and cherries if plums cost \$2.25 per bag and cherries cost \$5.49 per bag

e. The length of a rectangle is no more than twice the width plus 8

e. the number of adults is less than twice the number of children

3. Convert each percent to a decimal.

a. $92.4\% = \underline{\hspace{2cm}}$

b. $17\% = \underline{\hspace{2cm}}$

c. $0.05\% = \underline{\hspace{2cm}}$

d. $12.38\% = \underline{\hspace{2cm}}$

4. Solve each equation.

a. $5(2x + 9) = 10x + 45$

b. $3(2x - 7) = 6(x - 1)$

c. $4(3x + 1) = 12x + 4$

d. $(x - 7)(x + 2) = 0$

e. $(2x + 3)(x - 7) = 0$

f. $x(x + 1)(3x - 1) = 0$

4. Show all steps in simplifying each expression.

a. $5(2x - 3) - 3(x + 2)^2$

b. $2(x - 3) - 4(x - 2)^2 + 3$

5. Are the points (0, 7) and (-3, 7) on a vertical or horizontal line, and how do you know?

6. Choose any two points that lie on the same vertical line as each other.

7. Describe the first two steps in simplifying $5 - 8|3 + 4|$.

8. Determine the slope, x-intercept, and y-intercept of each line.

a. $y = x + 8$

b. $3y + 8x = -12$

9. Determine the y-intercept of each function.

a. $f(x) = 12x^5 - 8x^3 + 4$

b. $f(x) = 3x^3 - 2x^2 + 4x - 1$

10. Simplify each expression.

a. $\sqrt[3]{27}$

b. $\sqrt{9y^2}$

c. $\sqrt[3]{64}$

d. $\sqrt{121x^8y^{24}}$