

Let's review some of the skills you learned in Grade 9 and will need this semester. Doing your best work, complete these exercises. **SHOW ALL YOUR WORK.**

1. Evaluate, without a calculator.

a. $-3(4-6) + (-2)^3 =$

b. $(-3)^2 =$

c. $\frac{(-5-7) \div 3}{-5+3} =$

d. $\frac{3}{4} - \frac{5}{6} =$

e. $\left(\frac{3}{-4}\right)\left(\frac{-8}{9}\right) =$

f. $\left(-2\frac{2}{3}\right) \div \frac{2}{9} =$

2. Simplify the following algebraic expressions.

a. $4x - 3 + 2x + 7 =$

b. $2x^2 + 3x - x^2 + x =$

c. $2(3a - 5b) =$

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

3. Solve these equations.

a. $3x - 5 = 7$

b. $4x + 11 = 1$

c. $\frac{x}{3} = -2$

d. $3(x - 4) = 15$

e. $4x + 9 = 2x - 3$

f. $\frac{x}{2} - 5 = 4$

g. $\frac{x}{4} + \frac{2}{3} = \frac{x}{6}$

h. $\frac{x-2}{2} = \frac{x+1}{5}$

4. Graphs each of the following relations.

a. $y = 2x + 3$

b. $5x - 2y = 10$

c. $x = 5$

d. $y = -4$

5. What is the slope of the line that passes through the line that passes through the points $(2, -1)$ and $(5, 2)$.

6. Find the equations in the form $y = mx + b$ for the following linear relations.

a. Slope of 3 and a y-intercept of 7

b. Slope of 2 and passing through the point $(1, 4)$

c. Through the point $(2, 1)$ and $(5, 2)$

d. Parallel to the line $y = \frac{1}{2}x + 1$ but through the point $(4, 1)$.

e. Perpendicular to the line $y = \frac{1}{2}x + 1$ but through the point $(-1, 3)$

7. Express $5x - 2y = 6$ in the form $y = mx + b$.

8. Communications. One of your friends is having difficulty correctly evaluating two expressions: -3^2 and $(-3)^2$. Write your friend a note explaining how to correctly answer each of these questions. (Be sure to tell your friend the answers.)

Answers:

1.

a. -2 b. 9 c. 2

d. $-\frac{1}{12}$ e. $\frac{2}{3}$ f. -12

2.

a. $6x+4$ b. x^2+4x

c. $6a-10b$ d. $2x-1$

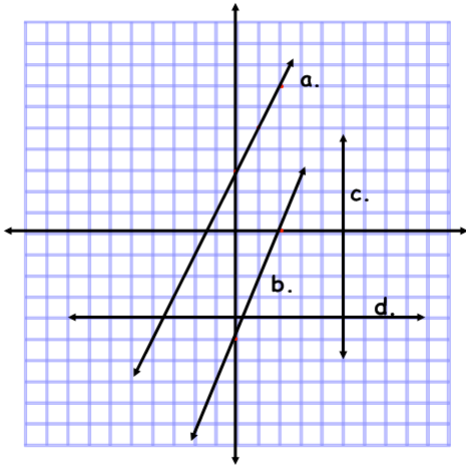
3.

a. $x=4$ b. $x=-\frac{5}{2}$ c. $x=-6$

d. $x=9$ e. $x=-6$ f. $x=18$

g. $x=-8$ h. $x=4$

4.

5. $m = 1$

6.

a. $y = 3x + 7$

b. $y = 2x + 2$

c. $y = \frac{1}{3}x + \frac{1}{3}$

d. $y = \frac{1}{2}x - 1$

e. $y = -2x + 1$

7. $y = \frac{5}{2}x - 3$

8. Answers may vary