

Show all work (use extra paper if necessary)

This is intended to refresh some of the basic skills needed to be successful in Algebra I. Please complete before the next school year begins. It will be reviewed early in the school year.

If you need help with any of these topics, the following websites may be helpful:

- ❖ <http://www.regentsprep.org/Regents/math/ALGEBRA/math-ALGEBRA.htm>
 - ❖ <http://coolmath.com/algebra/Algebra1/index.html>
 - ❖ <http://www.algebra.com/>
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Simplify the following expressions

1. $4[8 - (6 - 4)^3 + 1]$

2. $8(4^2 - 21) + 9 \div 3$

3. $7|25 - 37|$

4. $5(x^2 + 3x - 10) - 2(3x - 1)$

Solve for x:

5. $x - 16 = -25$

6. $2(x - 9) = 1$

7. $a + 16 = 17$

8. $\frac{x}{7} = -2.8$

9. $\frac{3x - 4}{2} = -8$

10. $3x = -18$

Distribute and combine like terms

1. $7(x + 5)$

2. $-8(3y - 5) - 5$

2. $8x + 4(x - 1)$

4. $5(x + 2) - 2(x + 2)$

Solve each inequality. Then graph the solution on the number line.

1. $x + 3 \geq -1$



2. $-7x + 33 > 5$



3. $\frac{x}{2} - 7 \leq -9$



4. $6x > 24 - 2x$



Perform the operations on each problem. Leave your answer in fraction form.

1. $-\frac{1}{3} - \frac{3}{4}$

2. $\frac{3}{2} + \frac{1}{4}$

3. $\frac{4}{5} \cdot \frac{3}{8}$

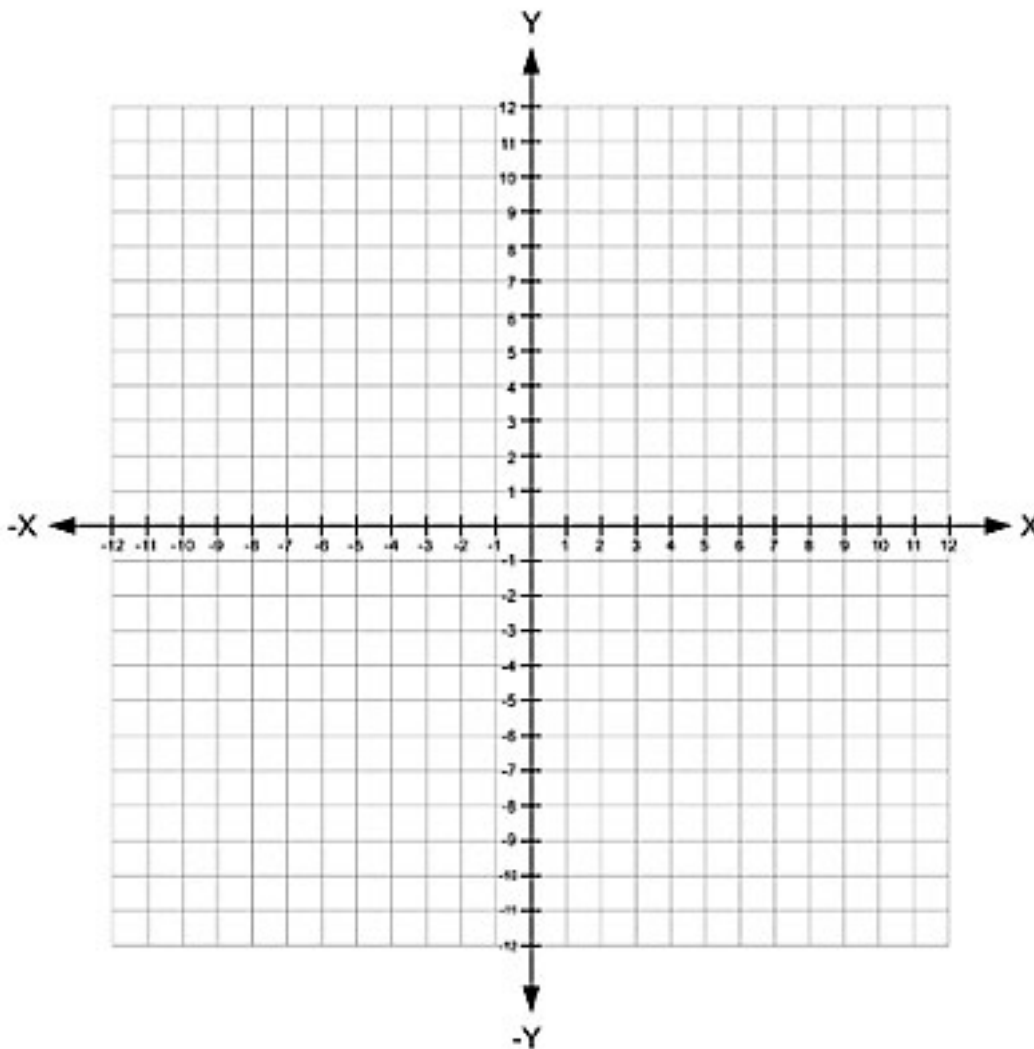
4. $6 \div \frac{2}{3}$

5. $4\frac{2}{3} + 5\frac{1}{6}$

6. $-5\frac{4}{5} \cdot 3\frac{2}{5}$

Plot the 6 points on the coordinate plane below. Label each point by the letter name.

A(-4, 5) , B(11,0) , C(2, -8) , D(-3, -3) , E(0,0) , F(9, 7)



Translate each verbal statement into a math expression.

1. Five more than a number.
2. The product of six and a number.
3. The difference between a number and seventeen.
4. The quotient of a number and ten.
5. Four times the sum of a number and eight.
6. The product of x and twelve divided by the product of y and seven.

Simplify each exponent expression

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|----------------|-------------|-----------------|
| 1. 9^2 | 2. $(-3)^2$ | 3. $(6)^3$ |
| 4. $4^3 + 6^2$ | 5. $(-5)^3$ | 6. $(2^3)(3^2)$ |

Simplify each square root.

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|-----------------|-----------------|------------------|
| 1. $\sqrt{9}$ | 2. $\sqrt{36}$ | 3. $\sqrt{121}$ |
| 4. $\sqrt{100}$ | 5. $-\sqrt{49}$ | 6. $\sqrt[3]{8}$ |

Solve each.

1. James bought 15 apples and 7 oranges costing \$2 for each piece of fruit. How much did James pay?
2. After paying \$17 for a pizza, Freddy has \$35 left. How much money did he have before buying the pizza?
3. Susie spent \$275 on an airplane flight, \$50 for food and \$220 on a hotel room. She now has \$330 left. How much money did she start with?
4. The rate to rent a sports car is \$70 per day, plus \$1.30 per mile. Julian rented the car to drive to the beach. It took 2 days and his cost was \$460. How many miles did Julian drive?

Solve each expression using the given values.

1. If $a = 2$, $b = 4$, $c = -1$

Find a^3bc^5

2. If $x = -3$, $y = -2$, $z = 13$

Find $\frac{x^2y^3}{z}$

3. If $a = 10$, $b = 3$, $c = -5$, $d = -2$

Find $\frac{a}{2cd}$

4. If $m = 9$, $n = 4$, $k = -5$

Find $-4nmk$