

Name:

# Kennedy High School

## Summer 2021 Math Packet

### *For Rising Algebra 1 Students*

This packet is an optional review of the skills that will help you be successful in Algebra 1 and MAPS in the fall. By completing this packet over the summer, you will keep your brain mathematically active and you will also be able to identify skills that you need to strengthen. Complete the practice problems. If you struggle with any of the exercises, please seek help from a friend, parent, sibling, book, or online resource (some suggestions have been provided for you). Enjoy your math review and we look forward to meeting you in August!

**I. Factors.** Write the factor pairs for each number.

<http://www.mathsisfun.com/greatest-common-factor.html>

**Example:**  
Give the factor pairs of 12:  
**Answer:**      $1 \times 12$   
                   $2 \times 6$   
                   $3 \times 4$

- a) 48
- b) 72
  
- c) 126
- d) 39
  
  
- e) 53
- f) 121

**II. Greatest Common Factor (GCF).** Find the GCF for each pair of factors.

- a) 12 and 20
- b) 54 and 81
- c) 15 and 70

**III. Order of Operations and Integer Operations.** Simplify each expression.

<http://www.mathsisfun.com/operation-order-pemdas.html>

a)  $3 - 4$

b)  $-14 - 8$

c)  $-7 + 3$

d)  $-4 + 9$

e)  $-1 - -7$

f)  $-2 + -9$

g)  $-4 \bullet -2$

h)  $-54 \div 9$

i)  $15 \bullet -2$

j)  $-32 \div -4$

k)  $27 \div 3 + 4^2$

l)  $2[5 + 3(14 - 6)]$

m)  $24 \div 8 + 5 \bullet 6$

n)  $\frac{(5 - 2)^2 + 9}{6}$

o)  $30 - 4 \bullet 5 + 7$

p)  $18 \div [(8)(2) - 7]$

**IV. Fractions.** Perform the indicated operation. Make sure final answer is simplified.

<http://www.mathsisfun.com/fractions.html>

a)  $\frac{2}{5} + \frac{1}{5}$

b)  $\frac{3}{4} + \frac{2}{3}$

c)  $\frac{1}{2} - \frac{5}{7}$

d)  $\frac{-12}{7} - \frac{3}{14}$

e)  $\frac{5}{8} \bullet \frac{4}{10}$

f)  $\frac{3}{4} \bullet 8$

g)  $\frac{1}{3} \div \frac{1}{2}$

h)  $\frac{2}{9} \div \frac{5}{3}$

**V. Combining Like Terms and Distributive Property.** Simplify.

<http://www.glencoe.com/sec/math/brainpops/00112041/00112041.html>

<http://www.themathpage.com/alg/like-terms.htm>

a)  $2 + 3y - 5y$

b)  $9x + 6 - 5x$

c)  $15n + 2n - 8n$

d)  $4x^2 - 5x^2 + 7x$

e)  $3p - 7p^2 + 4p - 2p^2$

f)  $-9 - 8x - 4 - 7x$

g)  $3(y + 6)$

h)  $-4(2x + 7y)$

i)  $(4r - 5)(-2)$

j)  $3x + 7(x - 4)$

k)  $2 - 7(3 - 5x)$

l)  $-3(x + 1) - 2$

m)  $-2(x + 5) + 3(4x - 9)$

n)  $9(3x + 4) - 5(3 - 2x)$

o)  $7(w + 3y) - 6(2w + 3y)$

**VI. Solving one-step equations.** Solve each equation.

[http://www.montgomeryschoolsmd.org/departments/itv/mathdude/MD\\_Algebra1\\_1-2.shtm](http://www.montgomeryschoolsmd.org/departments/itv/mathdude/MD_Algebra1_1-2.shtm)

a)  $z - 7 = -3$

b)  $p + -7 = 9$

c)  $8 + q = -4$

d)  $3a = -27$

e)  $-5y = 23$

f)  $\frac{w}{3} = 8$

g)  $\frac{x}{-6} = 9$

h)  $\frac{1}{5}x = 12$

**VII. Solving two-step equations.** Solve each equation.

a)  $2x + 1 = 23$

b)  $-2x + 2 = 4$

c)  $6x + 3 = 15$

d)  $-x + 1 = -7$

e)  $\frac{2x}{3} = 6$

f)  $\frac{1}{2}x + 1 = 11$

**VIII. Translating Verbal Phrases**

*Hint: More, sum, plus = addition*

*Product, time, multiplied = multiplication*

*is = Equal to*

*Difference, less, minus = subtraction*

*Quotient, divided by = division*

a) The difference of 7 and 10 times a number

b) 11 plus the quotient of a number and 7

c) Two less than the sum of six and a number

d) Half of a given number

e) The sum of 6 and a number

f) 3 less than 4 times a given number

g) The sum of 6 and a number is 18.

h) Sixteen more than a number is 36.

i) 12 more than a number

j) One number decreased by the sum of 10 and the square of another number

**IX. Inequalities.** Graph the inequality on a number line.

<http://www.mathsisfun.com/algebra/inequality.html>

$<$  → less than, open circle       $\leq$  → less than or equal to, closed circle  
 $>$  → greater than, open circle       $\geq$  → greater than or equal to, closed circle

a)  $x \geq 3$

b)  $y \leq -8$

c)  $5 > w$

d)  $k < -0.5$

e)  $\frac{1}{3} < q$

f)  $-\frac{13}{4} \geq w$

**X. Rounding.** Round each number to the nearest thousandth.

<http://www.mathsisfun.com/rounding-numbers.html>

a) 15.7895

b) -2.5654

c)  $\frac{2}{3}$

d)  $4\frac{2}{7}$

e) 4.99762

f)  $1\frac{1}{6}$

g) -3.89254

h) 3.1415161718

**XI. Graphing** Tell what point is located at each ordered pair

<https://www.shmoop.com/basic-algebra/graphing-x-y-points.html>

1) (2,4) \_\_\_\_\_      6) (5,3) \_\_\_\_\_

2) (2,0) \_\_\_\_\_      7) (8,9) \_\_\_\_\_

3) (3,4) \_\_\_\_\_      8) (4,7) \_\_\_\_\_

4) (7,4) \_\_\_\_\_      9) (3,8) \_\_\_\_\_

5) (7,3) \_\_\_\_\_      10) (3,2) \_\_\_\_\_

