

## Bridge to Algebra 2 Summer Review Assignment

This assignment should serve as a review of some of the Algebra skills necessary for success in Bridge to Algebra 2. This review will keep your mind mathematically active during the summer and prepare you for the fun and challenging year ahead. We expect that you come to class knowing this material and ready to continue learning Algebra. **Answer all questions on separate paper. SHOW ALL WORK.** This assignment will be collected for a grade on the first day of school.

I. Perform the indicated operation. Simplify, if possible.

1.  $\frac{2}{5} + \frac{5}{7}$

2.  $2\frac{7}{8} + \frac{3}{4}$

3.  $3\frac{2}{3} \cdot 3$

4.  $\frac{7x}{3} - \frac{3x}{4}$

5.  $\frac{6}{5} \div \frac{3}{10}$

6.  $4\frac{5}{9} - \frac{1}{5}$

II. Evaluate the expression.

1.  $\frac{6 \cdot 3}{7 + (2^3 - 1)}$

2.  $\frac{2^5 - 12}{2(5^2 - 5)}$

3.  $\frac{2(17 + 2 \cdot 4)}{6^2 - 11}$

III. Simplify.

1.  $(x + 7)^2$

2.  $(x^2 + x - 5) + (2x^2 - 6x - 8)$

3.  $(15r^5 - 10r^4 + 2a^3 - 4a^2 + 6) - (4r^5 - 7r^4 + 2a^3 - 1)$

4.  $(8x - 6)(3x + 5)$

5.  $(-2x^3y^2z)^3$

6.  $(32a^4b^8c^4)^0$

7.  $\frac{4x^5}{12x^{-7}}$

IV. Write the verbal phrase as an algebraic expression. Use 'x' for the variable in your expression.

1. Nine more than a number
2. Product of four and a number
3. Difference of ten and a number

4. Five squared minus a number
5. Eight is greater than three times a number.

V. Factor.

1.  $x^2 + 8x - 9$
2.  $t^2 - 10t + 21$
3.  $15x^2y^3 - 10xy^2 - 35y$
4.  $6n^2 - 2n - 8$

VI. Solve the quadratic equations.

1.  $y^2 + 5y - 6 = 0$
2.  $w^2 + 13w = -22$
3.  $2a^2 + 33a + 136 = 0$
4.  $6x^2 + x - 96 = 80$
5.  $(x + 5)(2x + 10) = 0$
6.  $(2x + 8)^2 = 0$

VII. Solve the linear equations.

1.  $3(x - 2) = 18$
2.  $17 = 2(3x + 1) - x$
3.  $-10 = 1/2x + x$
4.  $5m - (4m - 1) = -12$
5.  $22n + 2(3n + 5) = 66$
6.  $3x - 2(x + 1) = 0$

VIII. Write the equation of the line ( $y = mx + b$ ).

1. through (0, 2) with  $m = 2$
2. vertical, through (-2, 0)
3. through (3, 6) with  $m = 0$
4. through (2, 3) and (-4, 3)