

# Algebra: 1-30 worksheet

Here's a few questions and problems to work through to refresh your memory of last semester.

1. Rewrite the equation  $2y - 4 = 3x + 1$  so that the dependent variable  $y$  is by itself on one side.
2. Write an equation which describes the line with a slope of  $1/2$  which goes through the point  $(2, -3)$ . Sketch a graph of the line.
3. Rewrite the line  $y = m(x - h) + k$  in point-slope form into slope-intercept form. In terms of the parameters  $m$ ,  $h$ , and  $k$ , what are the slope and  $y$ -intercept of the line?
4. Consider the line given by the equation  $2x + y/4 = 1$ . What are the slope,  $y$ -intercept, and  $x$ -intercept of the line?
5. Perform the following multiplication of binomials to get a trinomial:

$$(2x - 3)(x/2 + 1).$$

6. Add the polynomials:

$$(2x^3 - 3x + 1) + (x^2 + 2x - 1).$$

What is the degree of their sum?

7. Factor the quadratic polynomial:

$$x^2 + 4x + 5.$$

8. Factor the quadratic polynomial:

$$4x^2 - 9.$$

9. Factor the quadratic polynomial:

$$a^2 + 2ab + b^2.$$

10. Solve the polynomial equation:

$$(2x - 1)(x + 3)(x - 2) = 0.$$