

**Basic Algebra Worksheet 1 — answers and links on following page**

**1.**

$$\frac{3x}{x-1} = \frac{3x+8}{x+1}$$

**6.** In an isosceles triangle, two of the angles are  $(3x + 16)^\circ$  and  $(9x - 2)^\circ$ . What are the three possible values of  $x$ ?

**2.**

$$\begin{aligned} 2x + 3y &= 8 \\ 4x - y &= 2 \end{aligned}$$

**7.** The slope between  $(a,5)$  and  $(1, a)$  is  $-2$ . What is  $a$ ?

**3.** If  $(2x - 1)^2 = ax^2 + bx + c$ , what is  $a + b + c$ ?

**8.** Solve:  $3(7 - 2x) < -2(x + 1)$

**4.** What are the solutions to  $2x^2 + 3x = 5$ ?

**9.** A map is gridded so that every letter is one inch apart on the horizontal axis and every number is one inch apart on the vertical axis. How far is it from a point in A4 to a point in G12?

**5.** What is the smallest factor of  $x^3 - 9x$ ?

**10.** If  $f(x) = 7x + c$  and  $f(-2) = -12$ , what is  $f(3)$ ?

Use the links below for additional practice for any questions that you miss, or find other links through [baytutoring.com/resources](http://baytutoring.com/resources) or on your own.

1. 4
2. (1, 2)
3. 1
4.  $-\frac{5}{2}$  and 1
5.  $x - 3$ . Others are  $x$  and  $x + 3$
6. 3, 8 and 10
7.  $-3$
8.  $x > \frac{23}{4}$
9. 10
10. 23

- [Solving proportions](#)
- [Solving a system of equations](#)
- [FOILING/multiplying](#)
- [Quadratic formula \(or factoring\)](#)
- [Factoring](#)
- [Geometry/triangles](#)
- [Coordinate geometry: slope](#)
- [Inequalities/algebra](#)
- [Coordinate geometry: distance](#)
- [Functions](#)