

# Simplifying Expressions and Solving Equations

## Algebra Review 1

Simplify the following expressions.

1.  $8x + 2x$
2.  $(8x)(2x)$
3.  $5x + x + 5$
4.  $5x - x - 5$
5.  $7x^2 - x^2$
6.  $x^2 - 7x^2$
7.  $6x + 3y + 3x + y$
8.  $6x + 3y - 3x - y$

Use the distributive rule to eliminate the parentheses.

9.  $5(x + 3)$
10.  $11(4 - x)$
11.  $6(3x + 1)$
12.  $8(5 - 7x)$
13.  $9x(x - 2)$
14.  $2x(10 + 3x)$
15.  $xy(x + y)$
16.  $2(x - 2x + 4)$

Solve the following equations. Show all the steps.

17.  $5x - 3 = 47$
18.  $9 + 2x = 25$
19.  $4x + 7x = 33$
20.  $10x = x + 54$
21.  $6x - 1 = 5x + 12$
22.  $2x + 9 = 7x - 36$
23.  $8 - x = x + 22$
24.  $3x - 5 = 10x + 30$
25.  $4(x - 11) = 3x + 16$
26.  $x(x + 7) = x^2$
27.  $5(x + 2) = 2(x - 13)$
28.  $6(4x - 1) = 7(15 + 3x)$
29.  $8 + 2(x + 3) = 10$
30.  $x + 7(x - 5) = 2(5 - x)$
31.  $4(x + 9) + x(x - 1) = x(6 + x)$
32.  $2x(x + 3) + x(x + 4) = 5x(x + 2) - 2x^2$