

### Algebra Review

Simplify (combine like terms)

1.  $3x + x^2 - x^2 + 7$
2.  $x^2y + 4xy + y^2 + 3x^2y$
3.  $7x - 2x + 4 - 9 + 3y$

Multiply (FOIL)

4.  $(x + 4)(x - 3)$
5.  $(x - 5)(x + 7)$
6.  $(x + 2)(x + 2)$
7.  $(x + 5)(2x - 1)$
8.  $(x + 6)(x - 6)$
9.  $(x + 1)(x + 5)$
10.  $(x - 7)(x - 3)$

Factor

11.  $x^2 + 10x + 9$
12.  $x^2 + 7x + 10$
13.  $x^2 - 3x - 10$
14.  $x^2 + 6x + 9$
15.  $x^2 - 16$
16.  $2x^2 + 7x + 3$
17.  $2x^2 - 4x - 6$
18.  $x^2 + 15x$
19.  $2x^3 + 6x^2$

Solve using the Quadratic Formula

20.  $x^2 + 8x + 5 = 0$
21.  $x^2 - 4x - 96 = 0$
22.  $x^2 - 3x - 154 = 0$
23.  $x^2 + 12x - 40 = 0$
24.  $x^2 + 13x + 30 = 0$
25.  $4x^2 - 3x + 6 = 0$
26.  $2x^2 - 39x + 135 = 0$
27.  $x^2 = 9x + 120$
28.  $2y^2 = 39y - 17$