

**Solve** each QUADRATIC using any strategy.

1.)  $5x^2 + 19x - 68 = -2$

2.)  $y^2 - 9y - 38 = -9$

3.)  $7x^2 + 12x + 10 = 0$

4.)  $y^2 - 2y = 0$

5.)  $x^2 - 48x + 576 = 0$

6.)  $8y^2 + 4y - 16 = -y^2$

7.) Tell me everything you can about this quadratic:  $y = 2x^2 - 6x - 14$

Axis of symmetry

Value of discriminant

y-intercept

Concave up or down

x-intercept(s)

Vertex

**Factor** each POLYNOMIAL completely.



9.)  $3x^7 - 9x + 27$

10.)  $16y^2 - 49$

11.)  $x^2 + 3x - 70$

12.)  $2y^3 + 12y^2 + 10y + 60$

13.)  $3x^2 - 8x + 5$