

Notes 6.5: Quadratic Equations

1) Multiply: $(x + 5)(x + 6)$

2) Multiply: $(7x + 5)(4x - 3)$

3) Factor: $x^2 + 5x + 6$

4) Factor: $x^2 + 3x - 10$

5) Factor: $5x^2 - 14x + 8$

6) Factor: $6y^2 + 19x - 7$

Quadratic Equation $ax^2 + bx + c = 0$,
where a, b, c are real numbers, with $a \neq 0$

Zero-Product Principle
If $AB = 0$, then $A = 0$ or $B = 0$

7) Solve: $(x + 6)(x - 3) = 0$

8) Solve $x^2 - 6x = 16$

9) Solve: $2x^2 + 7x - 4 = 0$

10) Solve using the quadratic formula $8x^2 + 2x - 1 = 0$

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

11) Solve using the quadratic formula $2x^2 = 6x - 1$ (Round answers to the hundredths)

12) The formula $P = 0.01A^2 + 0.05A + 107$ models a woman's normal systolic blood pressure, P , at age A . Use the formula to find the age, to the nearest year, of a woman whose normal systolic blood pressure is 115 mm Hg. Use the graph for women to verify your solution.

