

Name: Key Date: _____

Solve by the Best Method – Sorting Activity

Sort the quadratics and descriptions. List the letter only. After getting the sort checked, work each problem (starting with Type 1) on another sheet of paper.

Type 1: Solve by Factoring

D, H, K

Type 2: Solve by Taking Square Roots

A, E, G, I, N

Type 3: Solve by Completing the Square

B, F, L, O

Type 4: Solve by Quadratic Formula

C, J, M

A. $ax^2 = c$

E. $x^2 + 7 = -300$

K. $x^2 + 7x + 6 = 0$

B. $ax^2 + bx + c = 0$,
when $a = 1$ and b
is even, but can't
factor.

F. $x^2 - 8x - 73 = 0$

L. $x^2 - 16x - 71 = 0$

C. Always works no
matter the
quadratic

G. $8x^2 + 3 = 331$

M. $9x^2 + 10x + 10 = 0$ 9-1 1-10
3-3 2-5

H. $x^2 + 3x = 40$

N. $(x - 5)^2 - 3 = 42$

I. $(x + 3)^2 = 4$

O. $x^2 - 12x + 82 = 0$

D. $x^2 - x - 56 = 0$

J. $4x^2 - 2x - 5 = 0$

$$D. x^2 - x - 56 = 0$$

$$(x - 8)(x + 7) = 0$$

$$x = 8 \quad x = -7$$

$$E. x^2 + 7 = -300$$

$$x^2 = -307$$

$$x = \pm i\sqrt{307}$$

$$F. x^2 - 8x - 73 = 0$$

$$x^2 - 8x + 16 = 73 + 16$$

$$(x - 4)^2 = 89$$

$$x - 4 = \pm \sqrt{89}$$

$$x = 4 \pm \sqrt{89}$$

$$G. 8x^2 + 3 = 331$$

$$8x^2 = 328$$

$$x^2 = 41$$

$$x = \pm \sqrt{41}$$

$$H. x^2 + 3x = 40$$

$$x^2 + 3x - 40 = 0$$

$$(x + 8)(x - 5) = 0$$

$$x = -8 \quad x = 5$$

$$I. \sqrt{(x+3)^2} = 4$$

$$x+3 = \pm 2$$

$$x = -3 \pm 2$$

$$x = -3 + 2 = -1$$

$$x = -3 - 2 = -5$$

$$x = -1, -5$$

$$J. 4x^2 - 2x - 5 = 0$$

$$a = 4 \quad b = -2 \quad c = -5$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(4)(-5)}}{2(4)}$$

$$x = \frac{2 \pm \sqrt{4 + 80}}{8} = \frac{2 \pm \sqrt{84}}{8}$$

$$x = \frac{1 \pm \sqrt{21}}{4}$$

$$K. x^2 + 7x + 6 = 0$$

$$(x + 1)(x + 6) = 0$$

$$x = -1 \quad x = -6$$

$$L. x^2 - 16x - 71 = 0$$

$$x^2 - 16x + 64 = 71 + 64$$

$$(x - 8)^2 = 135$$

$$x - 8 = \pm 3\sqrt{15}$$

$$x = 8 \pm 3\sqrt{15}$$

$$m. 9x^2 + 10x + 10 = 0$$

$$x = \frac{-10 \pm \sqrt{10^2 - 4(9)(10)}}{2(9)}$$

$$x = \frac{-10 \pm \sqrt{-260}}{18}$$

$$x = \frac{-10 \pm 2i\sqrt{65}}{18}$$

$$x = \frac{-5}{9} \pm \frac{\sqrt{65}}{9}i$$

$$n. (x-5)^2 - 3 = 40$$

$$\sqrt{(x-5)^2} = \sqrt{45}$$

$$x-5 = \pm 3\sqrt{5}$$

$$x = 5 \pm 3\sqrt{5}$$

$$o. x^2 - 12x + 82 = 0$$

$$x^2 - 12x + 36 = -82 + 36$$

$$\frac{-12}{2} = -6 \quad \sqrt{(x-6)^2} = \sqrt{-46}$$

$$(-6)^2 = 36 \quad x-6 = \pm i\sqrt{46}$$

$$x = 6 \pm i\sqrt{46}$$