Name _____ Date _____ Class _____

Find the zeros of each function by using the Quadratic Formula,

$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$**. The first one is done for you.**

1. $f(x) = x^2 + 4$

$x^2 + 0x + 4 = 0$

$x = \dfrac{-0 \pm \sqrt{0^2 - 4 \cdot 1 \cdot 4}}{2 \cdot 1}$

$x = \dfrac{\pm \sqrt{-16}}{2}$

$\underline{\hspace{3cm}}$
$ x = \pm 2i$

2. $f(x) = 2x^2 - 5x + 3$

$2x^2 - 5x + 3 = 0$

$x = \dfrac{-(\underline{}) \pm \sqrt{(\underline{})^2 - 4 \cdot (\underline{}) \cdot (\underline{})}}{2 \cdot \underline{}}$

$x = \dfrac{\underline{} \pm \sqrt{\underline{} - \underline{}}}{\underline{}}$

$\underline{\hspace{6cm}}$

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

$\underline{\hspace{6cm}}$

4. $f(x) = x^2 + 2x$

$\underline{\hspace{6cm}}$

Find the value of the discriminant for each function.
The first one is done for you.

5. $f(x) = x^2 + x + 4$

$\underline{} -15 \underline{}$

6. $f(x) = -2x^2 + 3x - 1$

$\underline{\hspace{4cm}}$

7. $f(x) = 3x^2 + 6x + 3$

$\underline{\hspace{4cm}}$

Find the type and number of solutions for each equation.
The first one is done for you.

8. $x^2 + 2x + 1 = 0$

$\underline{}$ **One real solution** $\underline{}$

9. $2x^2 + x - 4 = 0$

$\underline{\hspace{5cm}}$

10. $2x^2 + 4x + 3 = 0$

$\underline{\hspace{5cm}}$

11. $2x^2 - 5x + 3 = 0$

$\underline{\hspace{5cm}}$

Holt Algebra 2

Name _____ Date _____ Class _____

Find the zeros of each function by using the Quadratic Formula,

$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. **The first one is done for you.**

1. $f(x) = x^2 + 4$

$x^2 + 0x + 4 = 0$

$x = \dfrac{-0 \pm \sqrt{0^2 - 4 \cdot 1 \cdot 4}}{2 \cdot 1}$

$x = \dfrac{\pm\sqrt{-16}}{2}$

$x = \pm 2i$

2. $f(x) = 2x^2 - 5x + 3$

$2x^2 - 5x + 3 = 0$

$x = \dfrac{-(\mathbf{-5}) \pm \sqrt{(\mathbf{-5})^2 - 4 \cdot (\mathbf{2}) \cdot (\mathbf{3})}}{2 \cdot \mathbf{2}}$

$x = \dfrac{\mathbf{5} \pm \sqrt{\mathbf{25} - \mathbf{24}}}{\mathbf{4}}$

$x = 1, 1.5$

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

$x = -1 \pm i\sqrt{3}$

4. $f(x) = x^2 + 2x$

$x = 0, -2$

Find the value of the discriminant for each function.
The first one is done for you.

5. $f(x) = x^2 + x + 4$

-15

6. $f(x) = -2x^2 + 3x - 1$

1

7. $f(x) = 3x^2 + 6x + 3$

0

Find the type and number of solutions for each equation.
The first one is done for you.

8. $x^2 + 2x + 1 = 0$

One real solution

9. $2x^2 + x - 4 = 0$

Two real solutions

10. $2x^2 + 4x + 3 = 0$

Two nonreal complex solutions

11. $2x^2 - 5x + 3 = 0$

Two real solutions

Holt Algebra 2