NAME _____ DATE Answer Key PERIOD _____

LT 4.2 Skills Practice #4

Quadratic Formula

a) **Find the discriminant**
b) **Describe the number and types of roots**
c) **Solve (method: your choice)**
d) **Show the solution graphically**

Solve each equation.

1. $7x^2 - 11x + 5 = 0$

2. $-7x + 15x^2 - 4 = 0$
a) 113
b) 2 real, irrational
c) $x = \frac{-15 \pm \sqrt{113}}{-14}$

3. $x^2 + 6x - 16 = 0$
a) 100
b) 2 real, rational roots
c) $x = 2, -8$

4. $x^2 - 8x + 9 = 0$
a) 28
b) 2 real, irrational roots
c) $x = 4 \pm \sqrt{7}$

5. $x^2 - 10x - 11 = 0$
a) 144
b) 2 real, rational
c) $x = 11, -1$

6. $x^2 + 6x - 16 = 0$
a) 100
b) 2 real, rational roots
c) $x = 2, -8$

7. $2x^2 + 25x + 33 = 0$
a) 361
b) 2 real, rational
c) $x = \frac{-3}{2}, -11$

8. $x^2 + 8x + 16 = 0$
a) 0
b) 1 real rational roots
c) $-4 = x$

9. $x^2 + 6x - 16 = 0$
a) 100
b) 2 real, rational
c) $x = 2, -8$

10. $3x^2 + 5x + 1 = 0$
a) 13
b) 2 real, irrational roots
c) $x = \frac{-5 \pm \sqrt{13}}{6}$

11. $x^2 - 16x + 64 = 0$
a) 0
b) 1 real, rational
c) $-8 = x$

12. $x^2 + 34x + 289 = 0$
a) 0
b) 1 real rational root
c) $x = -17$

13. $2x^2 + 6x - 7 = 0$
a) 92
b) 2 real, irrational
c) $x = \frac{-3 \pm \sqrt{23}}{2}$

a) $b^2 - 4ac$
$(-11)^2 - 4(7)(5)$
$121 - 140 = -19$

b) 2 real, irrational solutions

c) $x = \frac{-(-11) \pm \sqrt{19}}{2(7)}$

$x = \frac{11 \pm i\sqrt{19}}{14}$