**Assignment: Quadratic Formula and the Discriminant**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_

**Solve. Show Work!**

1. $x^{2}+7x+10=0$ 6. $4x+3=-3x^{2}$

2. $3x^{2}-4x=1$ 7. $4x^{2}-6=5x$

3. $3x^{2}-5x=0$ 8. $x^{2}+6x+12=0$

4. $2x^{2}=2x-3$ 9. $-3x^{2}=4$

5. $x^{2}+2x=9$ 10. $2x^{2}-13=-7x$

**Describe the zeros based on the discriminant.**

11. $b^{2}-4ac=12$ 12. $b^{2}-4ac=-48$ 13. $b^{2}-4ac=0$

**Find the discriminant and describe the zeros (solutions) to the quadratic. Your discriminant work MUST be shown.**

14. What is true of the solutions for $3x^{2}-7x=-10$?

A. All real numbers are solutions.

B. There are two real solutions.

C. There is one real solution.

D. There are no real solutions, but there are complex solutions.

16. What is true of the solutions for $4x^{2}+1=4x$?

A. All real numbers are solutions.

B. There are two real solutions.

C. There is one real solution.

D. There are no real solutions, but there are complex solutions.

15. What is true of the solutions for $2x^{2}+5=2x$?

A. All real numbers are solutions.

B. There are two real solutions.

C. There is one real solution.

D. There are no real solutions, but there are complex solutions.

17. What is true of the solutions for $3x=2x^{2}-8$

A. All real numbers are solutions.

B. There are two real solutions.

C. There is one real solution.

D. There are no real solutions, but there are complex solutions.

**Solve by completing the square. Show Work!**

18. $x^{2}+12x=24$ 19. $x^{2}+2x+8=0$