

**Algebra 2A**  
**Quiz Review on 4-7 & 4-8**

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Hr: \_\_\_\_\_

**SHOW ALL WORK**

**For #1-4, a.) find the discriminant, b.) determine the number of real solutions, and c.) list the exact solutions.**

1.  $x^2 + 3x + 9 = 0$

1. a.) \_\_\_\_\_

b.) \_\_\_\_\_

c.) \_\_\_\_\_

2.  $x^2 - 7x = -10$

2. a.) \_\_\_\_\_

b.) \_\_\_\_\_

c.) \_\_\_\_\_

3.  $x^2 + 49 = 14x$

3. a.) \_\_\_\_\_

b.) \_\_\_\_\_

c.) \_\_\_\_\_

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

4. a.) \_\_\_\_\_

b.) \_\_\_\_\_

c.) \_\_\_\_\_

5. Your class is selling boxes of flower seeds as a fundraiser. The total profit  $p$  depends on the amount  $x$  that your class charges for each box of seeds. The equation  $p = -0.5x^2 + 25x - 150$  models the profit of the fundraiser. What's the smallest amount, in dollars, that you can charge and make a profit of at least \$125?

5. \_\_\_\_\_

6. The weekly revenue for a company is  $r = -3p^2 + 60p + 1060$ , where  $p$  is the price of the company's product. Use the discriminant to find whether there is a price for which the weekly revenue would be \$1500. Show our work and explain your answer.

6. \_\_\_\_\_

**For #7-13, simplify.**

7.  $\sqrt{-36}$

7. \_\_\_\_\_

8.  $\sqrt{-5}$

8. \_\_\_\_\_

9.  $(-3 + 5i) + (7 - 6i)$

9. \_\_\_\_\_

10.  $(-3 - 8i) - (-2 - 9i)$

10. \_\_\_\_\_

11.  $(2 + i)(-5 - 3i)$

11. \_\_\_\_\_

12.  $(4 + 2i)^2$

12. \_\_\_\_\_

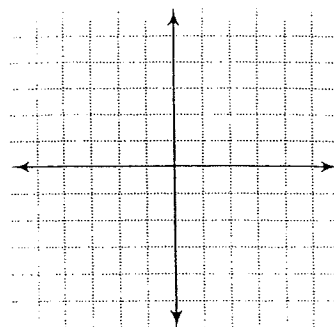
13.  $\frac{3-2i}{-4+i}$

13. \_\_\_\_\_

For #14, a.) plot the complex number and then b.) find its absolute value.

$$-5 - 3i$$

14. a.)



b.) \_\_\_\_\_

15. What is the factored form of  $2x^2 + 32$ ?

15. \_\_\_\_\_

