Algebra 2C
Practice Quiz on 6-5 and 8-3

Name:_____
Date:_____ **Hr:** _____

S N ALL WORK

For #1-4, solve.

1. $3\sqrt{x} + 3 = 15$ 1. _____

2. $\sqrt{2x - 1} = 3$ 2. _____

3. $\sqrt{2x + 3} - 7 = 0$ 3. _____

4. $3(x - 2)^{3/4} = 24$ 4. _____

5. The formula $\frac{\pi d^2 v}{4} = Q$ models the diameter of a pipe where Q is the maximum flow of water in a pipe, and v is the velocity of the water. What is the diameter of a pipe that allows a maximum flow of $30ft^3$/min of water flowing at a velocity of 400ft./min? Round your answer to the nearest inch 5. _____

For #6-8, solve. Check for extraneous solutions

6. $\sqrt{11x+3}-2x=0$

6. _____

7. $\sqrt{7x+6}=\sqrt{9+4x}$

7. _____

8. $(x+5)^{1/2}-(5-2x)^{1/4}=0$

8. _____

For #9-10, find the a.) domain, b.) removable points of discontinuity, and c.) nonremovable points of discontinuity for each rational function.

9. $y=\frac{2x^2+5}{x^2-2x}$

9. a.) _____

b.) _____

c.) _____

10. $y=\frac{3x-3}{x^2-1}$

10. a.) _____

b.) _____

c.) _____

For #11-12, find the a.) vertical asymptotes, b.) holes, c.) horizontal asymptotes, d.) x-intercepts, and e.) y-intercepts for the rational function. Then f.) graph the function by hand.

11. $y = \frac{(x-4)(x+5)}{(x+3)(x-4)}$

12. a.) _____

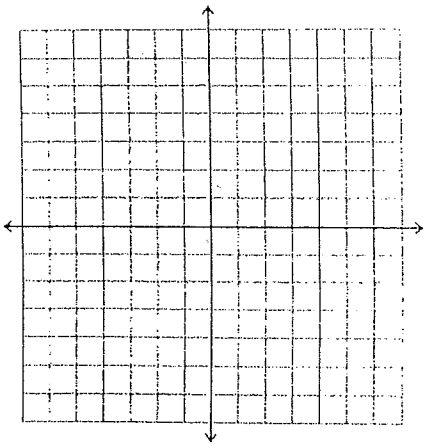
b.) _____

c.) _____

d.) _____

e.) _____

f.)



12. $y = \frac{x-1}{(3x+2)(x+1)}$

12. a.) _____

b.) _____

c.) _____

d.) _____

e.) _____

f.)