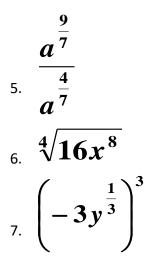
\_Date:\_\_\_\_\_Block:\_\_\_\_

Unit 3 TEST REVIEW Math II 1-4. Simplify the expressions

1. 
$$\left(\frac{-4s^{6}}{t^{3}r^{5}}\right)^{3} =$$
  
2.  $\left(14a^{4}b^{6}\right)^{2}\left(a^{6}c^{3}\right)^{7} =$   
3.  $\frac{-20xy^{8}}{3x^{-4}y^{2}} \cdot \frac{-5x^{-3}y^{5}}{(-2y)^{3}}$   
4.  $\left(\frac{4x^{-3}y^{2}}{6xy^{-3}}\right)^{-2} \cdot \frac{y^{4}}{x^{6}y^{-5}}$ 

5-7 Rationalize the exponents. Write your answers in radical form.



8-10. Rationalize the denominator.

8. 
$$\frac{4}{\sqrt[3]{9x^2y^8}}$$
  
9. 
$$\frac{2\sqrt{3}}{\sqrt{6} - \sqrt{2}}$$
  
10. 
$$\frac{5\sqrt{3} + 2\sqrt{6}}{2\sqrt{11} - 3\sqrt{6}}$$

11-12 simplify radicals

11. 
$$\sqrt{8x^7 y^{16} z}$$
  
12.  $2a^2b^5c\sqrt{45ab^5c^9}$   
13- 16 ADD, SUBTRACT AND MULTIPLY THE RADICAL EXPRESSION  
13.  $(2+2\sqrt{3})(5-\sqrt{3})$ 

Name:	Date:	Block:	
Unit 3 TEST REVIEW Math II			
14. $(4\sqrt{5})$	$+3\sqrt{3}\left(3\sqrt{5}-4\sqrt{3}\right)$		

15. 
$$\sqrt{3} \left( 2\sqrt{5} - 3\sqrt{2} \right)$$
  
16.  $10\sqrt{63} - 2\sqrt{28} + \sqrt{7}$ 

17-19 solve the radical equations

17. 
$$2\sqrt{2x-1} - 4 = -24$$
  
18.  $\sqrt[3]{3x-5} = \sqrt[3]{5x+2}$   
19.  $\sqrt{3x+10} = 5 - 2x$ 

Use the following table to answer questions 20-22.

Y
2
3
6
10

- 20. Does this show an inverse variation/proportion relationship? Explain why or why not.
- 21. What is the constant (k)?
- 22. What is the equation for this table?
- 23. If I am looking at an inverse relation, if y increases what happens to x? Explain what happens to y as x decreases.
- 24. The time it takes to fly from Los Angeles to New York varies inversely as the speed of the plane. If the trip takes 6 hours at 900 km/h, how long would it take at 800 km/h?
- 25. The power, *P*, in watts of an electrical circuit varies jointly as the resistance, *R*, and the square of the current, *C*. For a 240-watt refrigerator that draws a current of 2 amperes, the resistance is 60 ohms. What is the resistance of a 600-watt microwave oven that draws a current of 5 amperes?
- 26. The force needed to keep a car from skidding on a curve varies directly as the weight of the car and the square of the speed and inversely as the radius of the curve. Suppose a 3,960 lb. force is required to keep a 2,200 lb. car traveling at 30 mph from skidding on a curve of radius 500 ft. How much force is required to keep a 3,000 lb. car traveling at 45 mph from skidding on a curve of radius 400 ft.?