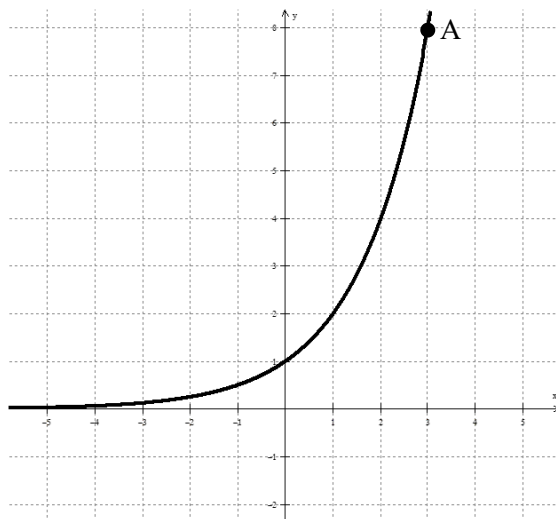


Math 2 Unit 8 Worksheet 2
Rational Exponents

Name: _____
 Date: _____ Per: _____

1. $y = 2^x$ is graphed to the right. Complete the table and label points B, C, D, E, F from the table onto the graph.

	x	$y = 2^x$
Point A	3	8
Point B	2	
Point C	1	
Point D	$\frac{1}{2}$	
Point E	0	
Point F	-1	



[2-4] Write the expression in radical form.

2. $k^{\frac{3}{2}}$

3. $3^{\frac{2}{5}}$

4. $x^{\frac{1}{3}}$

[5-7] Write the expression in exponential form.

5. $\sqrt{2x}$

6. $\sqrt[3]{f^2}$

7. $\sqrt[4]{5x^3}$

[8-19] Evaluate the expression.

8. $16^{\frac{3}{4}}$

9. $25^{\frac{3}{2}}$

10. $256^{\frac{3}{4}}$

11. $64^{\frac{1}{6}}$

12. $64^{\frac{5}{6}}$

13. $64^{\frac{5}{6}}$

14. $16^{-\frac{3}{2}}$

15. $27^{-\frac{2}{3}}$

16. $(-8)^{\frac{1}{3}}$

17. $(-27)^{\frac{2}{3}}$

18. $(64)^{-\frac{1}{2}}$

19. $(-125)^{\frac{4}{3}}$

[20-23] Simplify. Leave answer in simplified radical form when necessary. All variables represent positive numbers.

20. $(25x^2)^{\frac{1}{2}}$

21. $(8x^4)^{\frac{1}{2}}$

22. $2^{\frac{3}{4}} \cdot 2^{\frac{5}{4}}$

23. $3^{\frac{1}{5}} \cdot 3^{\frac{3}{10}}$

[24-27] Simplify. Leave answer in simplified radical form when necessary.

24. $5^{\frac{1}{6}} \cdot 5^{\frac{1}{4}}$

25. $7^{\frac{1}{2}} \cdot \sqrt[2]{7^3}$

26. $3^{\frac{2}{9}} \cdot \sqrt[3]{3^2}$

27. $\sqrt[5]{x^{\frac{1}{4}}}$