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

Math 622: Sections 7.1-7.3 Review

|  |  |
| --- | --- |
| 1.  is read \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    2. True or False: Power functions with odd  exponents have values in Q1 and Q3. | 3. Which of the following could be the graph of the function y = x6 ?  a) b) c) |

Simplify each of these as much as possible. Use positive exponents only.

|  |  |
| --- | --- |
| 4. | 5. |
| 6. | 7. |
| 8. | 9. |
| 10.  a) b) c)tive exponents: \_\_\_\_\_\_\_\_\_\_\_,a) b) c)tive exponents: \_\_\_\_\_\_\_\_\_\_\_, | 11. |
| 12. | 13. |
| 14. | 15. |
| For #16 and 17, write as a simple fraction with no exponents: | |
| 16. | 17. |
| 18.    This is part of the graph of the function  Screen shot 2012-10-29 at 8  State its Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  State its Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  In what Quadrants is this graph? \_\_\_\_\_ & \_\_\_\_\_  Symmetry type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Screen shot 2012-10-29 at 819.  This is a graph with the point (2, 64). Name one other point that is definitely on this graph.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  What is its equation?  f(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_  State its Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  State its Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  In what Quadrants is this graph? \_\_\_\_\_ & \_\_\_\_\_  Symmetry type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 20. The point (-4, -64) is on the graph of a power function.  a. Is the function an even or an odd power  function? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b. What is its equation?  f(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 21. Write the following in Scientific Notation:   1. 45, 000, 000 = 2. = 3. (5 x 10-4)2 = |

Answers:

1. the nth power of x. 2. True 3. a

4.  5.  6. 

7.  8.  9. 

10. 7 11.  12. 

13.  14. 

15. 16.  17. 



18. 19.

D: all Real numbers D: all Real numbers

R: all Real numbers R: all non-negative Real numbers

Quadrants: I and III Quadrants: I and II

Rotation symmetry about (0,0) Reflection symmetry across the y-axis

20. a) odd b) f(x) = x3 21. a) 4.5 x 107 b) 2.2 x 106 c) 2.5 x 10-7