

Practice Test Unit 5 Family of Functions

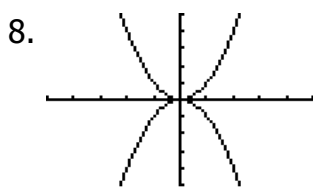
For 1 & 2, circle the correct word for each statement below.

1. All of the possible x values for a function are called the **(domain/range)**.
2. All of the possible y values for a function are called the **(domain/range)**.
3. Name two other names for the y-values: _____ and _____
4. Name two other names for the x-values: _____ and _____
5. Identify the "test" we can use to see whether or not a graph is a function? _____
6. Explain how to use this "test" and sketch a graph to help explain your thoughts.

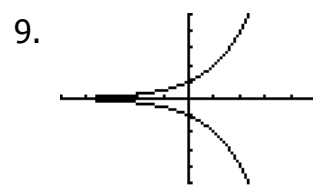
For 7–12, circle "YES" to state if the graph is a function or "NO" if it's not. Give a brief explanation.



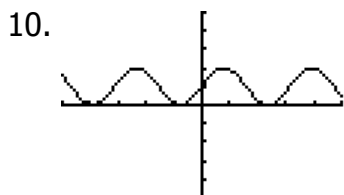
YES or NO



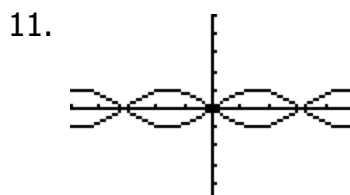
YES or NO



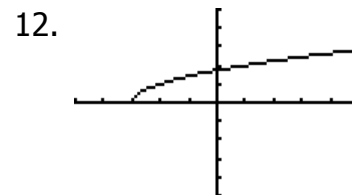
YES or NO



YES or NO



YES or NO



YES or NO

For 13–26, identify the name of the family to which each of the following functions belong to. (Hint: the families are Rational, Linear, Quadratic, Cubic, Exponential, Absolute Value, and Roots.)

13. $y = 12^x$ _____

14. $y = 1 - 2x$ _____

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

16. $y = |-4x+1|$ _____

17. $y = 4 - x^2$ _____

18. $y = \frac{391}{x}$ _____

19. $y = 2.5^x$ _____

20. $y = 5x^3 + 4x^2 + 1$ _____

21. $y = \frac{9}{x-4}$ _____

22. $y = |x|$ _____

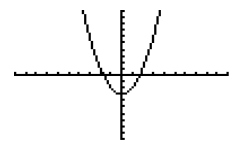
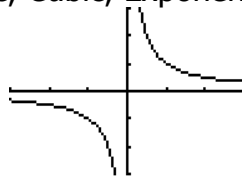
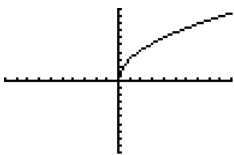
23. $y = 7x + 1$ _____

24. $y = x^2$ _____

25. $y = -x^3$ _____

26. $y = \sqrt{7-x}$ _____

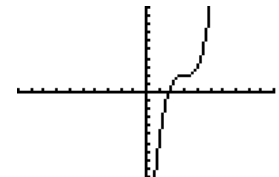
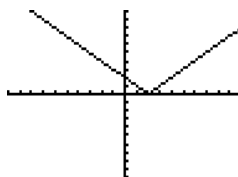
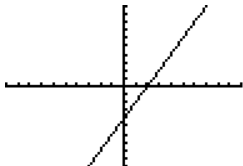
For 27–32, identify the name of the family to which each of the following graph belong to. (Hint: the families are Rational, Linear, Quadratic, Cubic, Exponential, Absolute Value, and Roots.)



27. _____

28. _____

29. _____

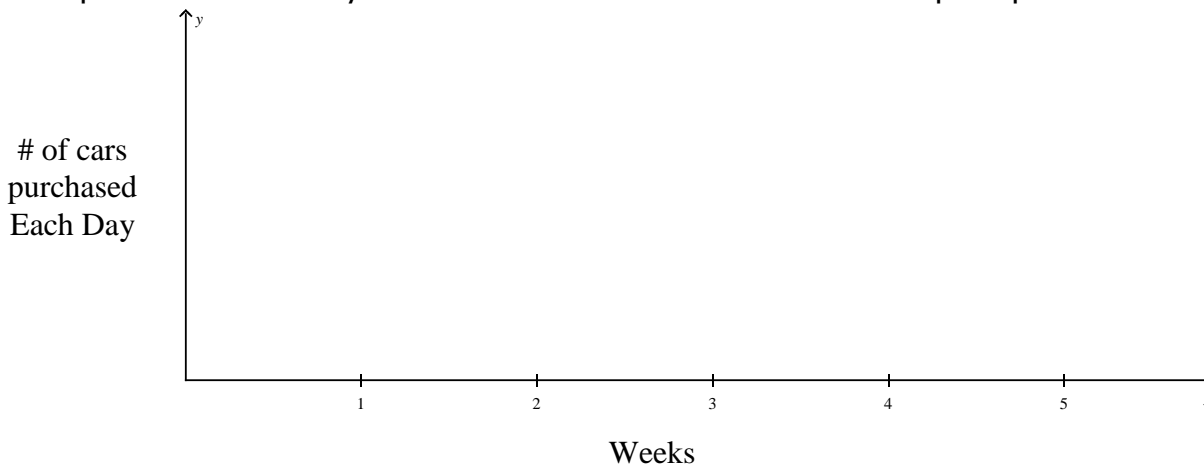


30. _____

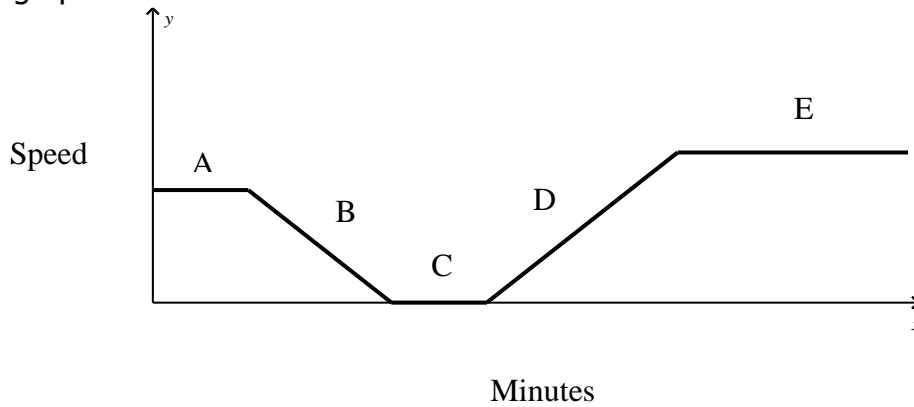
31. _____

32. _____

33. A new car dealership is opening up. During the grand opening the dealership is extremely busy with patrons and many cars are bought. This continues for the first week that the dealership is open. During the second and third weeks there are less and less cars purchased each day. Due to a holiday, the dealership is closed during the fourth week. Finally during the fifth week the dealership settles into a steady pattern of cars being purchased each day. Sketch a graph showing the number of cars purchased each day over the first 5 weeks that the dealership is open.



34. Consider the graph of the bus ride illustrated below.



Explain what the bus is doing in each section of the graph.

A _____

B _____

C _____

D _____

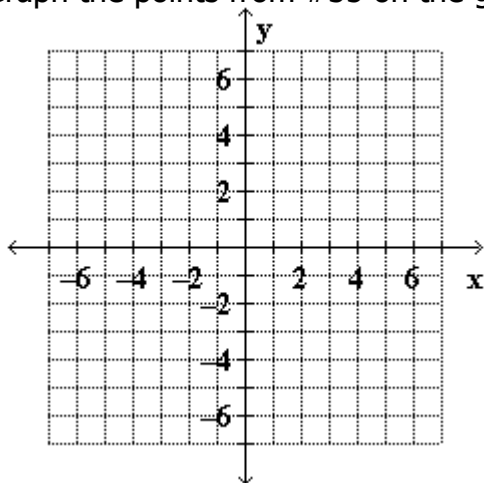
E _____

For 35–37, Use the rule, $y = -x^2 + 1$ to the answer the questions.

35. Use the rule to evaluate the output values by using the input values given from the table. Show the calculation in the “work” box.

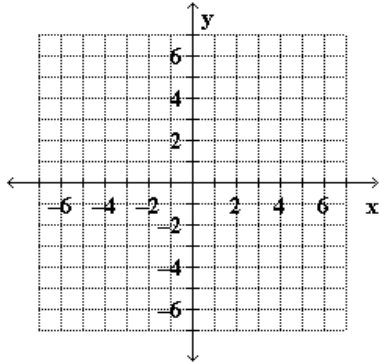
x	-2	-1	0	1	2
Work					
y					

36. Graph the points from #35 on the grid below.



37. Identify the family it belongs to?

38. Sketch an example of a function that is not linear.



39. Create an example equation of a function that is not linear.

For 40–42, use the table and the following information. Karly is 8 years old. Every year on her birthday her parents measure and record her height in inches. Her height for each birthday is charted in the table below.

AGE	1	2	3	4	5	6	7	8
HEIGHT	29	32	34	35	37	38	39	41

40. Identify the independent variable? _____

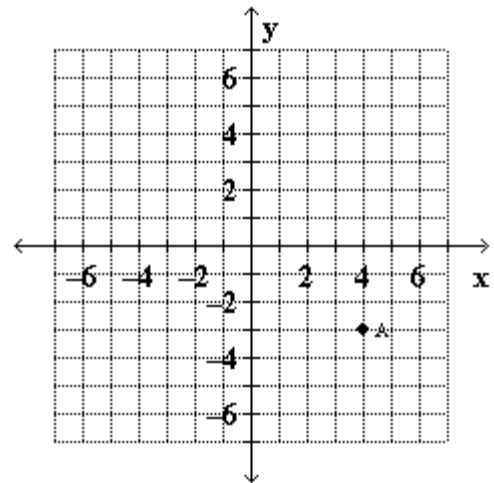
41. Identify the dependent variable? _____

42. Distinguish if this is a function? Circle One: YES or NO

For 43 & 44, use the graph to the right.

43. Identify the coordinates of Point A. _____

44. Plot a point at the coordinate $(-4, 2)$ and label it B.



For 45 & 46 use the relation below to answer the question.

$\{(2, 6), (5, 1), (7, -4), (-9, 2), (8, 6), (7, 3)\}$

45. Distinguish if this is a function? Circle One: YES or NO

46. Explain why it is or isn't a function.
