Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_

Quiz Review 4.2 - 4.6 Review

For each table, determine whether the relationship is a function. Then represent the relationship using an equation.

**1. 2. 3. 4.**

**5. Tell whether the function below is linear or nonlinear. Explain.**

**Each set of ordered pairs represents a function. Write a rule that represents the function.**

**6.** (0, 5), (1, 6), (2, 7), (3, 8), (4, 9) **7.** (0, 0), (1, 1), (2, 4), (3, 9), (4, 16)

**8.** (0, 0), (1, 3), (2, 6), (3, 9), (4, 12) **9.** (0, –8), (1, –7), (2, –6), (3, –5), (4, –4)

**10. Writing** Is the point  on the graph of 6*x* – 2*y* = 18? How do you know?

11. What is the difference between a discrete and a continuous function? Explain.

**Make a table of values for each function. Then graph each function rule. (MAKE X-Y AXIS)**

|  |  |  |
| --- | --- | --- |
| **12.** *y =* –*x +* 3 |  **13.**  |  |
|  |  |  |

|  |  |
| --- | --- |
| **14.** *y =* |*x*| + 3 | **15.** *y =*–3*x*2 |

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|  |  |
| --- | --- |
| **16.** *y =* |*x –* 2| + 3 | **17.** *y =* *x*2 –2 |

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18. $y=\left|x-2\right|$ 19. $y=x^{2}+1$

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**Identify the domain and range of each relation. Use a mapping diagram to determine whether the relation is a function.**

**20. {**(–3, 6), (0, 2), (1, 0), (2, –3)}  **21. {**(–1, –4), (0, 0), (1, 4), (2, 8)}

**Find the range of each function for the given domain.**

**22.** *f* (*x*) = –2*x +* 1; {–2, 0, 2, 4, 6} **23.** *f* (*x*) = *x*3 + 1; {–2, –1, 0, 1, 2}

**Graph each function rule. Explain your choice of intervals on the axes of the graph. Tell whether the graph is *continuous* or *discrete*.**

**24.** The cost *d*, in dollars, for a parking pass depends on the number of whole weeks *w* you purchase. This situation is represented by the function rule *d* = 25*w*.



**For problems 25 – 31, Write a function rule that represents each situation, solve if necessary.**

1. The price *p* of an ice cream is $3.95 plus $0.85 for each topping *t* on the ice cream.
2. A babysitter’s earnings *e* are a function of the number of hours *n* worked at a rate of $7.25 per hour.
3. The price *p* of a club’s membership is $30 for an enrollment fee and $12 per week *w* to be a member.
4. A plumber’s fees *f* are $75 for a house call and $60 per hour *h* for each hour worked.
5. A hot dog *d* costs $1 more than one-half the cost of a hamburger *h*.
6. José is 3 years younger than 3 times his brother’s age. Write a rule that represents José’s age *j* as a function of his brother’s age *b*. How old is José if his brother is 5?
7. A taxicab charges $4.25 for the first mile and $1.50 for each additional mile. Write a rule for describing the total rate *r* as a function of the total miles *m*. What is the taxi rate for 12 miles?
8. **Does the data or graph represent a function? If so, is it discrete or continuous?**



G. H. I. J.