**MVP Math 3 Unit 4 Quiz #1 Form A Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Paula opened Pizza Palace and only sold 6 pizzas on the first day. She was worried about her business until

 she realized that the number of number of pizzas she sold was increasing by 3 each day. Let *d(x)* represent

 the daily number of pizzas sold and let *t(x)* represent the total number of pizzas sold since she opened.

 a) Paula was so busy selling pizzas she didn’t have time to finish her inventory chart. Help her out by

|  |  |  |
| --- | --- | --- |
| Day *x* | Daily sales *d(x)* | Total sales *t(x)* |
| 1 | 6 | 6 |
| 2 | 9 | 15 |
| 3 | 12 |  |
| 4 |  |  |
| 5 |  |  |

 completing the tables:

 b) Write a recursive formula for *d(x)* (Paula’s daily sales).

 c) Write an explicit formula for *d(x)* (Paula’s daily sales).

 d) Write a recursive formula for *t(x)* (Paula’s total sales).

 e) Write an explicit formula for *t(x)* (Paula’s total sales).

 f) If Pizza Palace’s success continues, how many pizzas would Paula sell on day 100? (show work)

 g) Circle the correct answer: The *d(x)* function is ? .

 A. Quadratic B. Linear C. Exponential D. Cubic

 h) Circle the correct answer: The *t(x)* function is ? .

A. Quadratic B. Linear C. Exponential D. Cubic

2. Solve the following quadratic equations by factoring. Show your work.

 a) *f(x)* = x2 + 5x – 6 b) *g(x)* = x2 + 3x + 2

3. Determine if (2x + 1) is a factor of 2x3 – 5x2 + 8x – 3 by using long division. Show your work.

4. How many roots will the polynomial *f(x)* = 3x5 + 2x3 – 4x2 + 6 have? Circle the correct answer.

 A. 3 B. 4 C. 5 D. 6 E. not possible to determine

5. Answer the following questions from the graph shown.

 a. Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. Range : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c. Roots: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 d. y-intercept: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 e. increasing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 f. decreasing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 g. write the function in piecewise form : 