Chapter 6 TEST

1. Are the following relations linear functions? Justify. [3]  
   a)

|  |  |
| --- | --- |
|  |  |
| 2 | 5 |
| 4 | 8 |
| 6 | 11 |
| 10 | 17 |

b)   
  
c)   
  
d)   
  
e)   
  
f)   
A graph with a green line

Description automatically generated

1. Match each graph with its slope: [2]  
   a) \_\_\_ b) \_\_\_ c) \_\_\_  
   A graph of a line

   Description automatically generated A graphing graph with a green line

   Description automatically generated A graphing line on a graph paper

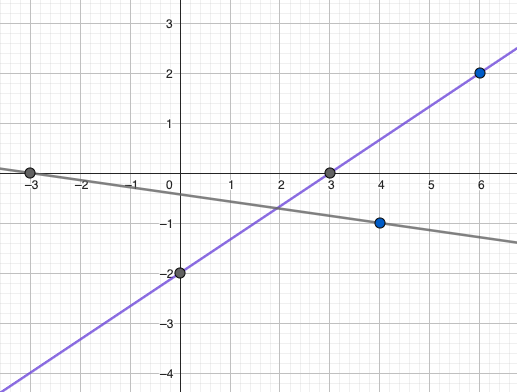
   Description automatically generated  
     
   d) \_\_\_ e) \_\_\_ f) \_\_\_  
   A graph of a line drawn on a graph paper

   Description automatically generated A graph of a line drawn on a graph paper

   Description automatically generated A graph of a line going up

   Description automatically generated  
     
   A: B: C: D: E: F: undefined
2. Determine if the following lines are parallel, perpendicular or neither. [2]

|  |  |  |  |
| --- | --- | --- | --- |
| Equations |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. Let , , and . [2]
2. Is ABCD a parallelogram?
3. Is it a rectangle?
4. Rewrite the following equations in slope-intercept forms: [2]  
   a) b)
5. Rewrite the following equations in general forms: [2]  
   a) b)
6. Determine an equation for each line graphed below: [2]  
     
   
7. Determine the *y*-intercepts of the following functions: [2]  
   a) b) c)
8. Graph the following functions (show at least 2 exact points): [3]  
   a) b) c)   
     
   A grid of white squares

   Description automatically generated
9. a) Determine an equation of a line going through the origin and perpendicular to the line with equation . [1]  
     
     
     
     
   b) Determine an equation in slope-intercept form of a line through and parallel to the line with equation . [2]
10. Julian wants to order t-shirts online. The shipping fee is $25 per order and each t-shirt costs $31.50. Present your work clearly for each question. [3]
11. Determine an equation to represent the price paid, P, as a function of the number of t-shirts ordered, n.
12. How much will Julian pay if he orders 5 t-shirts?
13. Julian received a bill for $277. How many t-shirts did he order?