

Chapter 2 Practice Test

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

1. Find the domain of the relation $\{(0, 0), (1, 1), (2, 0)\}$. Then determine whether the relation is a function.

D

Domain: $\{0, 1, 2\}$ Yes, it is a function

2. The table shows the annualized percent return of a mutual fund for several years. Find the range of the relation. Then determine whether the relation is a function.

Year	1	3	5	10
Percent Return	20.9	22.8	20.0	20.5

Range: $\{20.0, 20.5, 20.9, 22.8\}$

2. Y

3. Find $f(-1)$ if $f(x) = -3x - 5$.

$f(-1) = -3(-1) - 5 = 3 - 5 = -2$

3. f(-1) = -2

4. Find $f(0)$ if $f(t) = t^2 - 2t - 2$.

$f(0) = 0^2 - 2(0) - 2 = 0 - 0 - 2 = -2$

4. f(0) = -2

5. Which equation is linear?
 A $xy = 60$ C $y = x^2 - 3x + 1$
 B $3x - 2y = 5$ D $y^2 + 1 = x$

5. B

6. Which function is a linear function?
 F $f(x) = x^3 + x$ H $g(x) = 1 - 4x$
 G $h(t) = 2t + \frac{1}{t}$ J $f(r) = \sqrt{r}$

6. H

7. Write $y - 4x = 7$ in standard form.

$-4x + y = 7 \Rightarrow 4x - y = -7$

7. $4x - y = -7$

8. Find the x-intercept of the graph of $-5x + 10y = 20$.

$Y=0; -5x + 10(0) = 20 \Rightarrow -5x = 20 \Rightarrow x = -4$

8. $(-4, 0)$

9. Find the slope of the line that passes through $(0, 2)$ and $(8, 8)$.

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{8 - 2}{8 - 0} = \frac{6}{8} = \frac{3}{4}$

9. $m = \frac{3}{4}$

10. If a line rises to the right, its slope is _____ (warning-learn all slopes)
 F zero G positive H negative J undefined

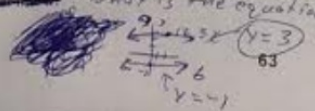
10. G

11. What is the slope of a line that is perpendicular to the graph of $y = 2x + 5$?

$m = -\frac{1}{2}$ (negative reciprocal)

11. $m = -\frac{1}{2}$

12. Line a through $(2, 3)$ is parallel to line b with equation $y = -1$. What is the equation of line a ?

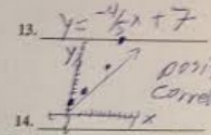


12. $y = 3$

Chapter 2 Practice Test (continued)

13. Write an equation in slope-intercept form for the line that has a slope of $-\frac{4}{5}$ and passes through $(0, 7)$.

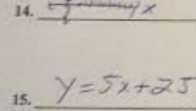
Handwritten: $y = mx + b$
 $x = 0, y = \text{int!}$
 $b = 7$
 $m = -\frac{4}{5}$



14. Use a scatter plot to draw a line of fit and then describe the correlation.

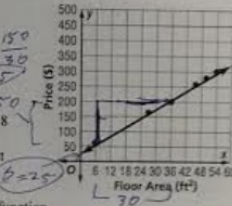
Handwritten: (I will provide 9 points for the test)

x	0	1	2	5	8
y	2	3	10	12	16



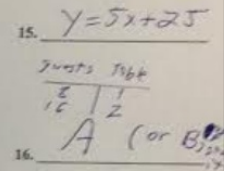
15. The scatter plot shows the area of the floor and the price for certain tents. What could be a prediction equation for this set of data?

Handwritten: (Estimate!)
 $m = \frac{150}{30}$
 $m = 5$
 $b = 25$

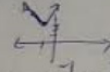


16. A banquet hall has tables that can seat 8 people. The number of tables needed depends on the number of guests. What type of special function models this situation?

A linear function C absolute value function
 B step function D constant function

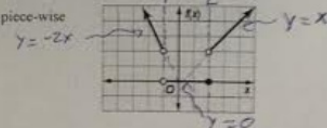


17. Identify the domain of $y = |x-1|+3$.



17. All real numbers
 $(-\infty, \infty)$

18. Write an equation for the piece-wise function shown on the right.



18. $y = \begin{cases} -2x, & x < 0 \\ 0, & -1 < x < 2 \\ x, & x > 2 \end{cases}$

19. The graph of the linear inequality $y \geq 2x - 1$ is the region _____ the graph of the line $y = 2x - 1$.

Handwritten: (x) above 0? 2(x) - 1
 (y) below 0? -1 ✓

19. above

20. Write an inequality describes that there are at least 20 students in class.

20. $x \geq 20$

Bonus Find the value of k so that the slope of the line through $(4, 2)$ and $(k, 3)$ is $\frac{1}{5}$.

B: _____