

Unit 4 Practice Test: Direct Proportions and Inequalities

Show all your work for full credit.

1. Complete the table below using substitution?

Input (x)	$4x - 1$	Output (y)
2	$4(x) - 1$	7
3	$4(x) - 1$	11
4	$4(x) - 1$	15

2. Mr. Shaw is buying hot dog buns for a cookout. Using the table as a guide, how many packages will she need to buy to have 54 buns?

7.5 packages

Hot Dog Buns	
Number of Packages	Number of Buns
2	16
4	32
6.75	54

Use the table below for Exercises 3 and 4.

x	1	3	4	6
y	4	12	16	n

3. What is the rule to find the value of the missing term?

- A. $y = \frac{4}{x}$ **B.** $y = 4x$ C. $y = x + 2$ D. $y = x + 4$

4. What is the value of y if x-value is 13 (Use the equation you chose in #3)?

$y = 4 \cdot 13$
 $y = 52$

5. Name two characteristics all direct proportion graphs include.

1. Straight line
2. through the origin

Use the following information for Exercises 6-7. Sarah earns \$8 for every hour that she babysits.

6. Write an equation to find t, the total amount Sarah will earn after babysitting h hours?

$t = 8h$

7. How much will Sarah earn if she babysits for 8 hours?

$t = 8 \cdot 8$
 $t = 64$

8. What could be a solution of the inequality $y - 5 \geq 6$?

$11, 12, 13, \dots$
 $11.6, 12.7, \dots$
y has to be greater than or equal to 11
 $y \geq 11$

9. The inequality $h \geq 52$ represents the minimum height h necessary to ride a certain roller coaster. Who can ride the roller coaster?

Mike, Anna, Lily

Height (in.)	
Mike	64
John	48
Anna	54
Lily	52

10. Graph the following inequalities listed below?

Inequality	Graph on Number Line
$t \geq 2$	
$t \leq 2$	
$t > 2$	
$t < 2$	

11. Lisa can spend at least \$75 at Six Flags. Write and give a possible solution for the situation.

$m \geq 75$; 75, 76.50, 123...

12. Write an inequality to represent the graph below. $x < 4$

List three possible solutions: 3.99, 0, -1



List 3 possible solutions for the following inequalities:

13. $3 + x \leq 20$

17, 16, 15

14. $2x \geq 360$

180, 181, 182

15. $\frac{x}{8} < 4$

31, 30, 29