

Chapter 8 Test Study Guide

◇ 8-1 through 8-4: Functions

For questions 1 – 2, complete the function table.

1)

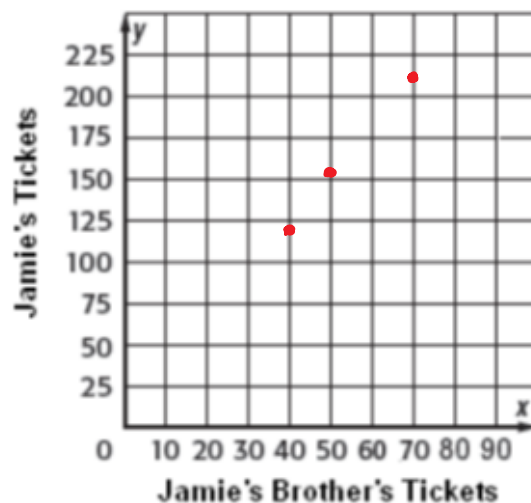
Input (x)	$x + 5$	Output
2	$2 + 5$	7
7	$7 + 5$	12
12	$12 + 5$	17

2)

Input (x)	$3x - 4$	Output
8	$3(8) - 4$	20
10	$3(10) - 4$	26
12	$3(12) - 4$	32

- 3) Jamie has 2 game tickets more than three times her brother's game tickets. The function rule, $3x + 2$ where x is her brother's tickets, can be used to find Jamie's number of tickets. Complete the function table to find the missing amounts for Jamie's and Jamie's brothers tickets. Then graph the function.

Jamie's Brother's Tickets (x)	$3x + 2$	Jamie's Tickets (y)
40	$3(40) + 2$	122
50	$3(50) + 2$	152
70	$3(70) + 2$	212



- 4) The table shows the amount it costs to rock climb at an indoor rock climbing facility, based on the number of hours. What is the rule to find the amount charged to rock climb for x hours? (Example 4)

$8x + 5$

Time (x)	Amount (\$)
1	13
2	21
3	29
4	37
x	■

Handwritten annotations: $+1$ in the x-column and $+8$ in the y-column for each row transition.

Write an equation to represent the function provided in the table.

5)

Input, x	0	1	2	3	4
Output, y	2	14	26	38	50

Handwritten annotations: $+1$ above each x-value, $+12$ below each y-value transition.

$y = 12x + 2$

6)

Input, x	1	2	3	4	5
Output, y	7	14	21	28	35

Handwritten annotations: $+1$ above each x-value, $+7$ below each y-value transition.

$y = 7x$

7) The average person uses about 12 gallons of water each day for showering.

a. Complete the table to show the relationship between the number of gallons g a person uses for showering in days d .

Days, d	1	2	3	4	d
Number of Gallons, g	12	24	36	48	60

b. Write an equation to find g , the number of gallons of water a person uses for showering in d days. $g = 12d$

c. How many gallons of water does a person use for showering each week?

$$g = 12(7) = 84 \text{ gallons}$$

8) Maurice receives \$3 per week for allowance and earns an additional \$1.75 for each chore he completes.

a. Write an equation to find t , the total amount earned for c chores in one week.

$t = 3 + 1.75c$; where t represents the total earned and

c represents the number of chores

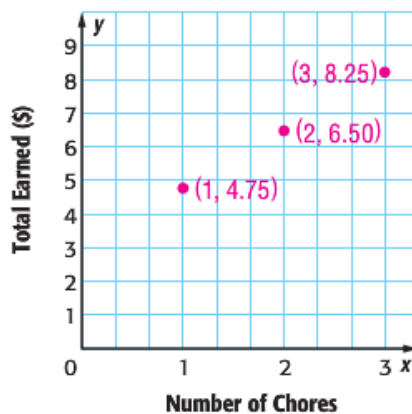
b. Make a function table to show the relationship between the number of chores completed c and the total amount earned t in one week.

Number of Chores, c	1	2	3
Total Earned (\$), t	4.75	6.50	8.25

c. Graph the ordered pairs.

d. How much will Maurice earn if he completes

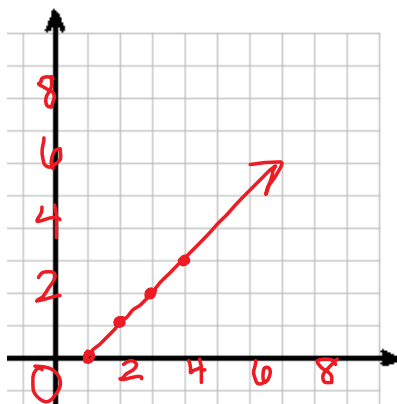
5 chores in one week? \$11.75



Graph each function.

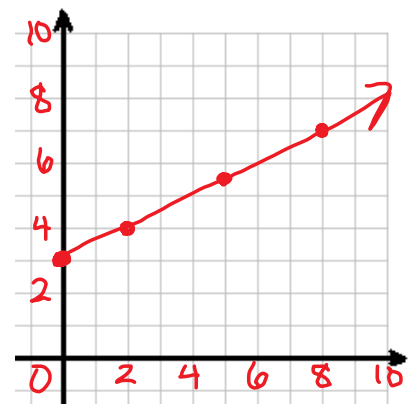
9) $y = x + 3$

x	$x-1$	y
1	1-1	0
2	2-1	1
3	3-1	2
4	4-1	3



10) $y = \frac{1}{2}x + 3$

x	$\frac{1}{2}x + 3$	y
0	$\frac{1}{2}(0) + 3$	3
2	$\frac{1}{2}(2) + 3$	4
5	$\frac{1}{2}(5) + 3$	5.5
8	$\frac{1}{2}(8) + 3$	7



◇ 8-5 through 8-7: Writing, Solving and Graphing Inequalities

Determine if the given value is a solution to the inequality.

11) $88 + m > 100$; $m = 11$

$88 + 11 > 100$
 $99 > 100$ No!

12) $12p \leq 76$; $p = 6$

$12(6) \leq 76$
 $72 \leq 76$ Yes!

13) **RAFFLE** The local Lions Club sold raffle tickets for a new golf cart. The sales for each week are given in the table. If more than 250 tickets are sold, then the Lions Club raised enough for the golf cart. Use the inequality $t > 250$, where t represents the number of tickets sold, to determine the weeks in which they raised enough money.

Week	Tickets Sold
1	248
2	315
3	296
4	210

Weeks 2 & 3

14) Let x represent any number in the set of even integers greater than 1.

Which inequality is true for all values of x ?

- A. $x < 0$
- B. $x > 0$
- C. $x < 4$
- D. $x > 4$

↪ doesn't include 2

15) **CCSS Be Precise** Pedro subscribes to a service where he can download up to five free ringtones each month. Each ringtone after that costs \$3.50 each. During which months did Pedro exceed the plan? How much is Pedro's additional cost in 6 months? **February and April; \$14.00**

Month	Ringtones
January	5
February	6
March	4
April	8
May	5
June	4

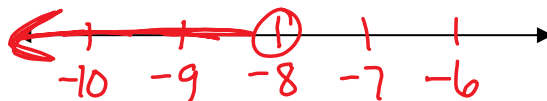
16) The EFLS is hoping to raise at least \$100,000 at their annual fundraiser. Write and graph an inequality that represents the amount the EFLS hopes to raise for Little Silver Schools.

Inequality: $f \geq 100,000$



17) On a certain day, the temperature in Moose Lake, Minnesota, was below -8°F . Write and graph an inequality to represent the possible temperatures.

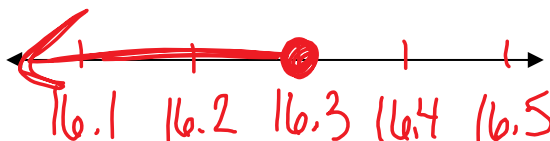
Inequality: $t < -8$



Solve the inequality and graph the solution on a number line.

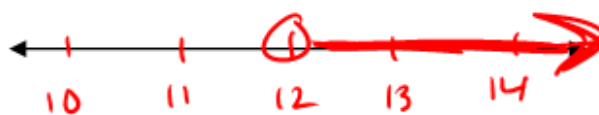
18) $g + 4.7 \leq 21.0$
 $\frac{g + 4.7 \leq 21.0}{-4.7 \quad -4.7}$
 $g \leq 16.3$

Check!
 $10 + 4.7 \leq 21$
 $14.7 \leq 21 \checkmark$



19) $9d > 108$
 $\frac{9d > 108}{9 \quad 9}$
 $d > 12$

Check!
 $9(20) > 108$
 $180 > 108 \checkmark$



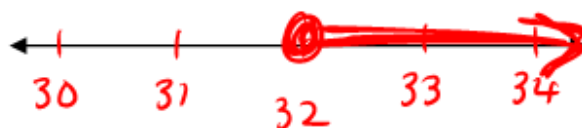
20) $15 > \frac{m}{6}$
 $90 > m$

Check!
 $15 > \frac{60}{6}$
 $15 > 10 \checkmark$



21) $k - 23 \geq 9$
 $\frac{k - 23 \geq 9}{+23 \quad +23}$
 $k \geq 32$

Check!
 $40 - 23 \geq 9$
 $17 \geq 9 \checkmark$



22) Julius is allowed to surf the Internet for only 3 hours a week. He has already been online for $1\frac{2}{3}$ hours this week. Write and solve an inequality to find how much more time Julius can spend online this week. Then graph the solution on a number line.

$1\frac{2}{3} + h \leq 3\frac{3}{3}$
 $\frac{1\frac{2}{3} + h \leq 3\frac{3}{3}}{-1\frac{2}{3} \quad -1\frac{2}{3}}$
 $h \leq 1\frac{1}{3}$

