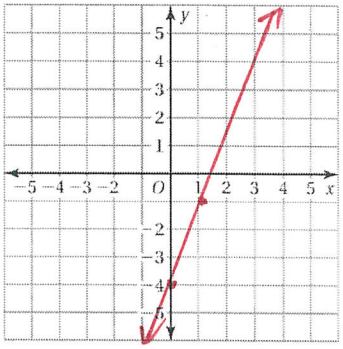
Name: Answers (2020-2021) Period: _____

Chapters 4 & 6 Review

Graph both linear equations on the coordinate plane on the right. Make sure you use an input/output table with at least 3 ordered pairs for each.

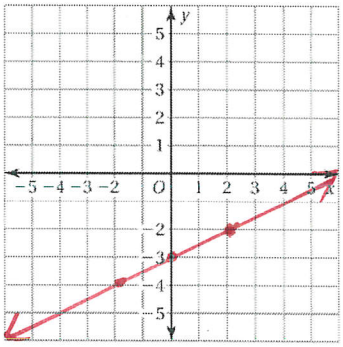
1) $y = 3x - 4$

x	y
-1	-7
0	-4
1	-1



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

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

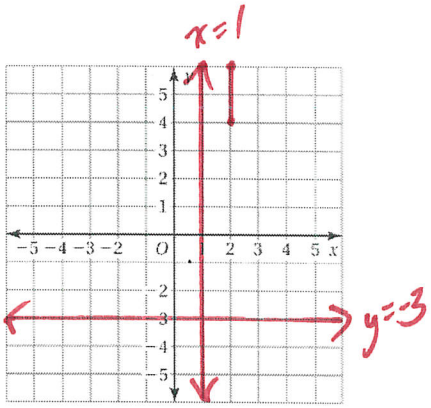


Graph both of the equations on the coordinate plane on the right. You may make an input/output table if you wish.

3) $y = -3$

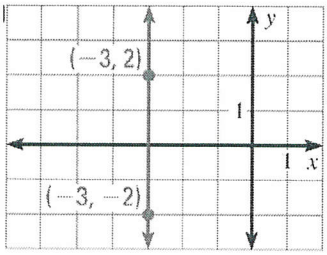
x	y
-1	-3
0	-3
1	-3

4) $x = 1$



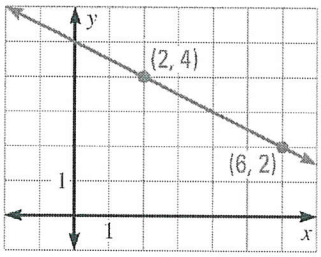
5) The slope of any line can be written as a ratio that represents its rise over its run.

Tell whether the slope of the line is positive, negative, zero, or undefined. Then find the slope if it exists.

6) 

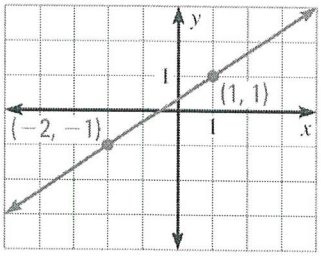
Kind of slope: Undefined

m = Undefined

7) 

Kind of slope: Negative

m = $\frac{-2}{4} = \frac{-1}{2}$

8) 

Kind of slope: Positive

m = $\frac{2}{4} = \frac{1}{2}$

9) The slopes of parallel lines are the same.

10) Find the slope of the line that passes through the points. Write your answer in simplest form.

a) (-1, 11) and (2, 10) m = $-\frac{1}{3}$

$m = \frac{10-11}{2-(-1)} = \frac{-1}{3}$

b) (-2, 0) and (4, 9) m = $\frac{3}{2}$

$m = \frac{9-0}{4-(-2)} = \frac{9}{6} = \frac{3}{2}$

c) (-5, 2) and (-5, 7) m = Undefined

$m = \frac{7-2}{-5-(-5)} = \frac{5}{0}$

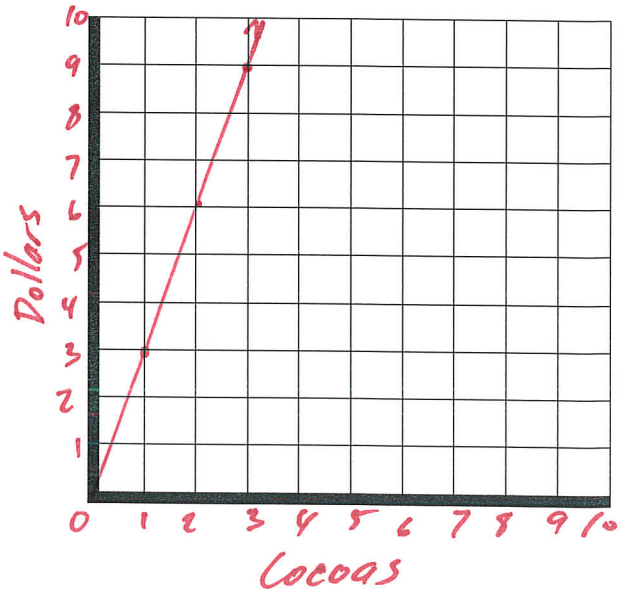
d) (4, 6) and (-2, 6) m = 0

$m = \frac{6-6}{-2-4} = \frac{0}{-6}$

11) Jenny wanted to buy a bunch of hot cocoas for her friends. The number y cocoas you get from x dollars is represented by the equation $y = 3x$.

a) Make sure to:
- Label you axis.
- Use at least 4 ordered pairs.

x	y
0	0
1	3
2	6
4	9

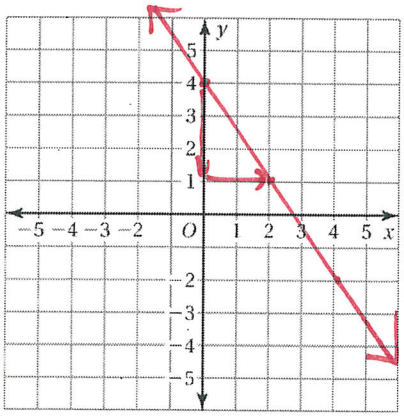


b) Interpret what the slope means in this problem

the slope is 3.
this means that a cocoa costs $3.

Graph each equation using the slope and the y-intercept only.

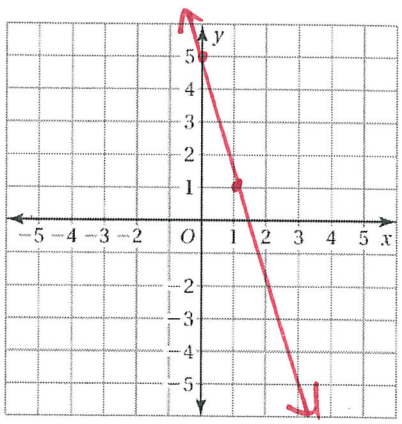
16) $y = -\frac{3}{2}x + 4$



$m = -\frac{3}{2}$

$b = (0,4)$

17) $y = -4x + 5$



$m = \frac{-4}{1}$

$b = (0,5)$

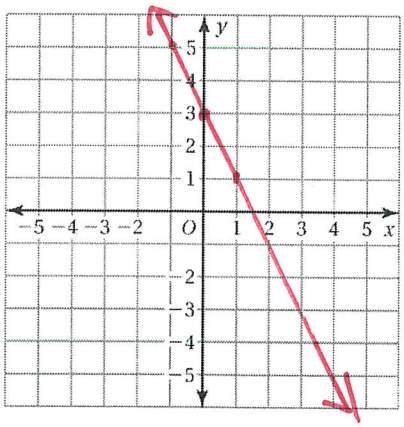
Solve each equation in slope-intercept form. Then graph.

$y = mx + b$

18) $2x + y = 3$

$-2x \quad -2x$

$y = -2x + 3$

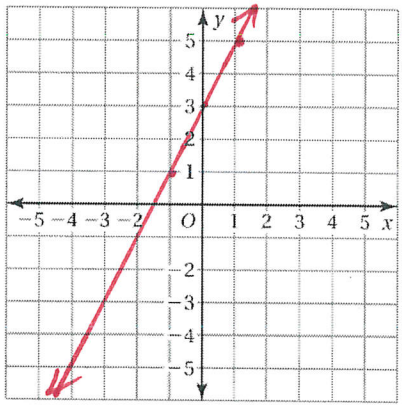


19) $6x - 3y = -9$

$-6x \quad -6x$

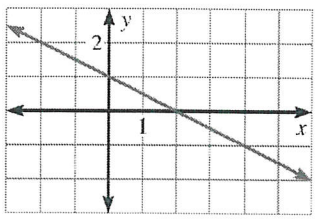
$\frac{-3y}{-3} = \frac{-6x - 9}{-3}$

$y = 2x + 3$



Identify the x-intercept and the y-intercept of the graph.

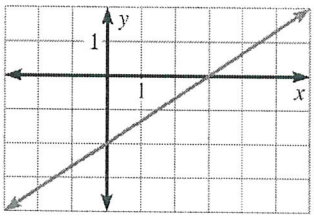
20)



x-intercept : $(2,0)$

y-intercept : $(0,1)$

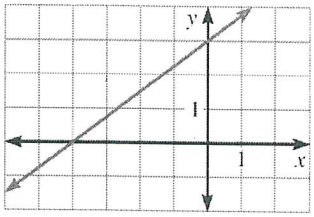
21)



x-intercept : $(3,0)$

y-intercept : $(0,-2)$

22)



x-intercept : $(-4,0)$

y-intercept : $(0,3)$

Find the x-intercept and the y-intercept of each equation, and then graph it.

23) $-4x+5y=20$

$(x,0)$

$-4x+5(0)=20$

$-4x=20$

$x=5$

$(5,0)$

x-intercept : $(5,0)$

$(0,y)$

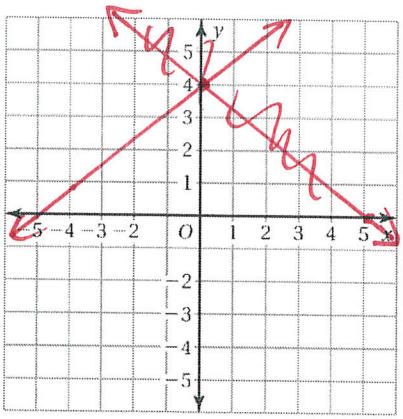
$-4(0)+5y=20$

$5y=20$

$y=4$

$(0,4)$

y-intercept : $(0,4)$



24) $6x-3y=12$

$(x,0)$

$6x-3(0)=12$

$6x=12$

$x=2$

$(2,0)$

x-intercept : $(2,0)$

$(0,y)$

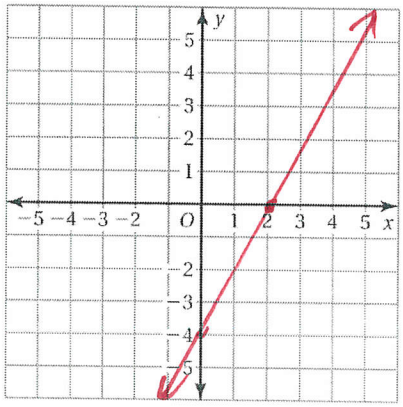
$6(0)-3y=12$

$-3y=12$

$y=-4$

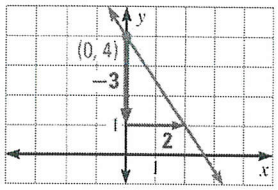
$(0,-4)$

y-intercept : $(0,-4)$



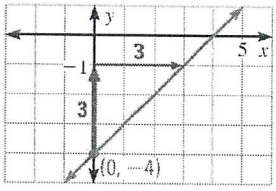
Write an equation of the line shown in slope-intercept form.

25)



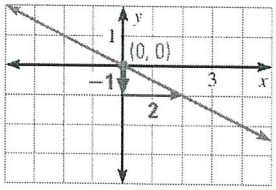
$y=-\frac{3}{2}x+4$

26)



$y=1x-4$

27)



$y=-\frac{1}{2}x$

Write an equation of the line shown in slope-intercept form that passes through the points.

28) $(-4,-1),(0,5)$

$m=\frac{5--1}{0--4}$

$=\frac{6}{4}=\boxed{\frac{3}{2}}$

$\boxed{y=\frac{3}{2}x+5}$

29) $(0,-3),(1,-5)$

$m=\frac{-5--3}{1-0}$

$=\frac{-2}{1}=-2$

$\boxed{y=-2x-3}$

Write in point-slope form an equation of the line that passes through the given point and has the given slope.

30) $(2, 2)$; $m = -1$

$y - 2 = -1(x - 2)$

31) $(-3, 5)$; $m = -\frac{5}{7}$

$y - 5 = -\frac{5}{7}(x + 3)$

Write in slope-intercept form an equation of the line that passes through the given points.
(Clue: Is the y-intercept given?)

32) $(2, 1), (3, 5)$

$m = \frac{5-1}{3-2} = \frac{4}{1}$

$y - 1 = 4(x - 2)$

$y - 1 = 4x - 8$

$+1 \quad +1$

$y = 4x - 7$

33) $(-1,5), (3,-3)$

$m = \frac{-3-5}{3-(-1)} = \frac{-8}{4} = -2$

$y - 5 = -2(x + 1)$

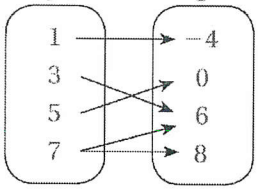
$y - 5 = -2x - 2$

$+5 \quad +5$

$y = -2x + 3$

Determine whether the relation is a function. **Explain**.

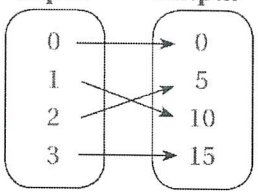
34)



(1,−4)
(3,6)
(5,0)
(7,6)
(7,8)

No. The input of 7 repeats

35)

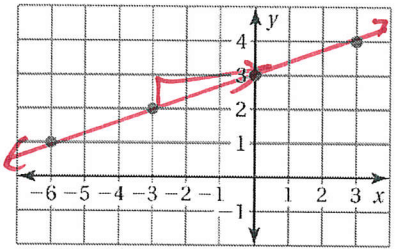


(0,0)
(1,10)
(2,5)
(3,15)

Yes. The Inputs don't repeat

Use the graph or table to write a linear function (equation) that relates y to x.

36)



$y = \frac{1}{3}x + 3$

37)

x	0	5	10	15
y	50	40	30	20

y-int → (0,50) (5,40)

x_1, y_1 x_2, y_2

$m = \frac{40-50}{5-0}$

$= \frac{-10}{5} = -2$

$y = -2x + 50$