Name _____ Date _____ Hour _____

THINKING WITH MATHEMATICAL MODELS

INV 2.2 – ACE # 11 - 19 pg. 36 - 37

11) Write a linear equation for each table relating the values of x and y.

a)

x	0	3	6	10
y	2	8	14	22

y = _____

b)

x	0	3	6	10
y	20	8	-4	-20

y = _____

c)

x	2	4	6	8
y	5	8	11	14

y = _____

d)

x	0	3	6	9
y	20	11	2	-7

y = _____

For 12 – 17, write an equation for the line that satisfies the conditions.

12) Slope 4.2; y-intercept (0, 3.4)

13) Slope 2/3; y-intercept (0, 5)

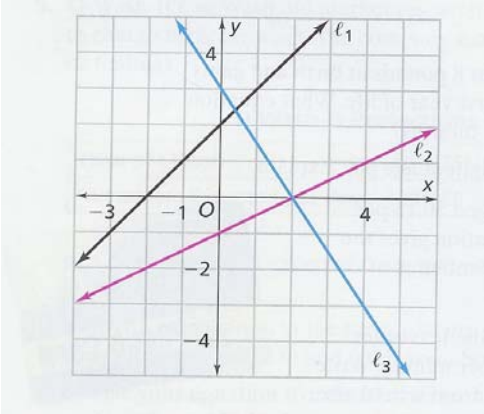
14) Slope 2; passes through (4, 12)

15) Passes through (0, 15) and (5, 3)

16) Passes through (-2, 2) and (5, -4)

17) Parallel to the line: y = 15 – 2x and passes through (3, 0)

18) Write an equation for each line.



ℓ_1: y =

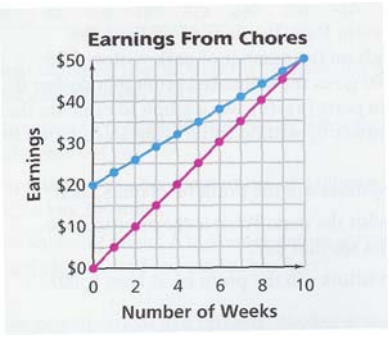
ℓ_2: y =

ℓ_3: y =

19) Anchee and Jonah earn weekly allowances for doing chores over the summer.

- Anchee's father pays her $5 each week.
- Jonah's mother paid him $20 at the beginning of the summer and now pays him $3 each week.

The relationships between number of weeks worked and dollars earned are shown in the graph.



a) Which line represents Jonah's earnings? Which line represents Anchee's earnings? **Explain** how you know.

b) Write two linear equations in the form y = mx + b. One to show the relationships between Anchee's earnings and the number of weeks she works, and another to show the relationship between Jonah's earnings and the number of weeks he works.

Anchee: y =

Jonah: y =

c) What do the values of (m) and (b) in each equation tell about the relationship between the number of weeks and the dollars earned?

d) What do the values of (m) and (b) tell about each line?