

Writing ^{Line} Linear Equations:

- ① Find the slope/CROC (m)
- ② Find the y-int (when $x=0$) (b)
- ③ Write equation

$$y = mx + b$$

Slope
CROC
"per"

y-int when $x=0$
(initial value)
(starting point)

Ex. 1: Write an equation to find the number of liters in any number of quarts. Describe the relationship in words.

$$y = 0.95x + 0$$

$$l = 0.95q$$

CROC: 0.95 Liters per quart
y-int: 0

$$\begin{array}{r} 1.9 - 0.95 \\ \hline 2 - 1 \\ \hline 0.95 \text{ liters} \\ \hline 1 \text{ quarts} \end{array}$$

Quarts, q	Liters, l
1	0.95
2	1.9
3	2.85
4	3.8
5	4.75

+0.95
+0.95
+0.95

Ex. 2: About how many liters are in 8 quarts?

$$l = 0.95q$$

$$l = 0.95(8)$$

$$l = 7.6$$

7.6 liters

The total cost of tickets to the school play is shown in the table.

Ex. 3: Write an equation to find the total cost of any number of tickets. Describe the relationship in words.

$$y = 4.5x + 0$$

CROC: \$4.50 per ticket
y-int: 0

$$\begin{array}{r} 9 - 4.5 \\ \hline 2 - 1 \\ \hline 4.5 \end{array}$$

\$4.5

1 tickets

Number of Tickets, t	Total Cost (\$), c
1	4.50
2	9.00
3	13.50
4	18.00

+4.5
+4.5

Ex. 4: Use the equation to find the cost of 15 tickets.

$$C = 4.5t$$

$$C = 4.5(15)$$

$$C = \$7.50$$

$$C(15) = 4.5(15)$$

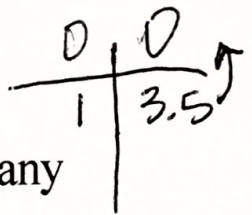
Notes 3-3

Int 2

Representing Relations

Unit 3

The total distance Marlon ran in one week is shown in the graph.



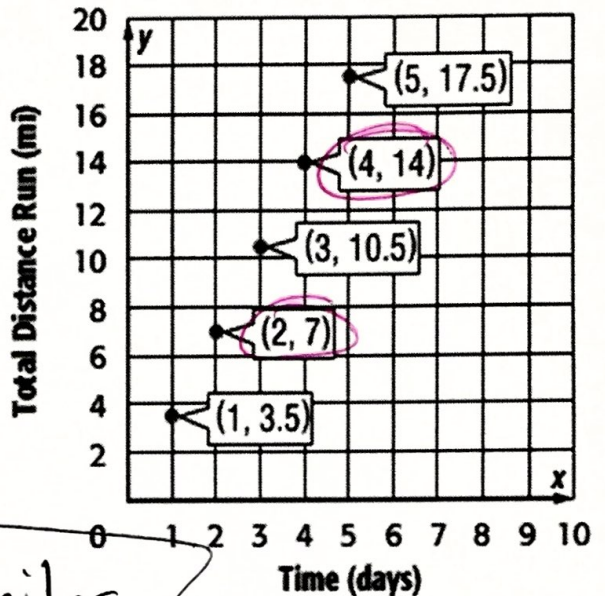
Ex. 5: Write an equation to find the number of miles run y after any number of days x .

$$y = 3.5x + 0$$

CROC: 3.5 mi per day

y-int: 0

$\frac{14-7}{4-2}$
7 mi / 2 days



Ex. 6: How many miles will Marlon run after 2 weeks?

14 days

$$y = 3.5x$$

$$y = 3.5(14)$$

$$y = 49$$

49 miles

Paul earns \$7.50 an hour working at a grocery store.

Ex. 7: Write an equation to find the amount of money Paul earned m for any number of hours h .

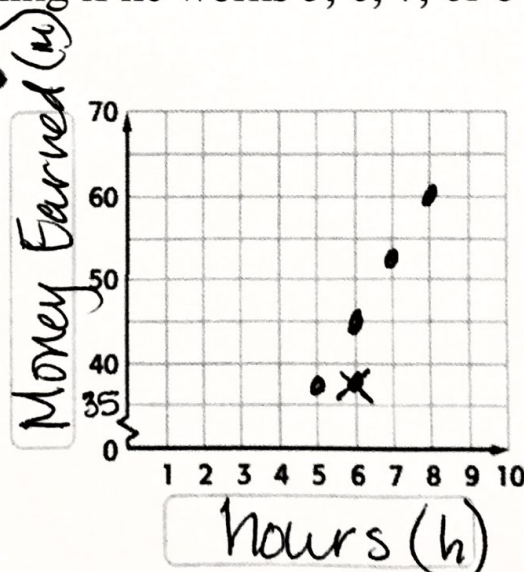
$$y = 7.5x + 0$$

$$m = 7.5h$$

Time = x

Ex. 8: Make a table to find his earning if he works 5, 6, 7, or 8 hours. Then graph the ordered pairs.

h	$7.5h$	m
5	$(7.5)(5)$	37.50
6	$(7.5)(6)$	45
7	$(7.5)(7)$	52.50
8	$(7.5)(8)$	60

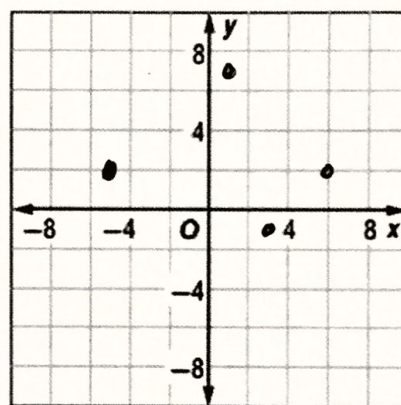


Vocabulary

- Relation: how x & y are related to each other
- Domain: x -values \rightarrow input
- Range: y -values \rightarrow output

Ex. 9: Express the relation $\{(-5,2), (3,-1), (6,2), (1,7)\}$ as a table and a graph.

x	y
-5	2
3	-1
6	2
1	7



A movie rental store charges \$3.95 per movie rental.

Ex. 10: Make a table of ordered pairs in which the x -coordinate represents the number of movies rented and the y -coordinate represents the total cost for 1, 2, 3, or 4 movies.

x	y
1	3.95
2	7.90
3	11.85
4	15.80

Ex. 11: Graph the ordered pairs.

