Name: _____ Date: _____

Learning Goal 5.2	I can express relations as expressions, in a table of values and on a graph.

A **formula** is an example of how to do something
- a rule that tells you how two things are related.

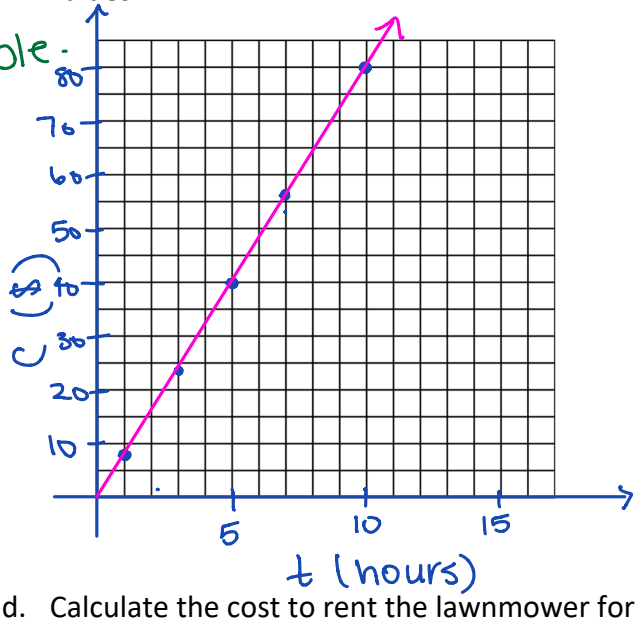
Example Paula rents a lawnmower for \$8 per hour. A formula representing this relationship is $C = 8t$ where C is the rental cost, in dollars, and t is the time, in hours.

a. Make a table of values for up to 5 hours only using integer values.

t (independent variable)	C (dependent variable)		
1	8		
3	24	$\frac{16}{2}=8$	+16
5	40	$\frac{16}{2}=8$	+16
7	56	$\frac{16}{2}=8$	+16
10	80	$\frac{24}{3}=8$	+24

(+2, +2, +2, +3)

b. Graph the ordered pairs in your table of values.



c. Is it reasonable to have points between those on the graph? Explain.

Yes because we can rent something for any positive amount of time.

d. Calculate the cost to rent the lawnmower for 12 hours.

$C = 8t$
$= 8 \times 12$
$= 96$

It would cost \$96.

An **equation** is a rule without context
- no units
- no value restrictions

Assignment p. 357 # 6 – 13, 16 – 18, 20 Quiz Next Day!

Example Use $y = 2x + 3$ to answer the following questions.

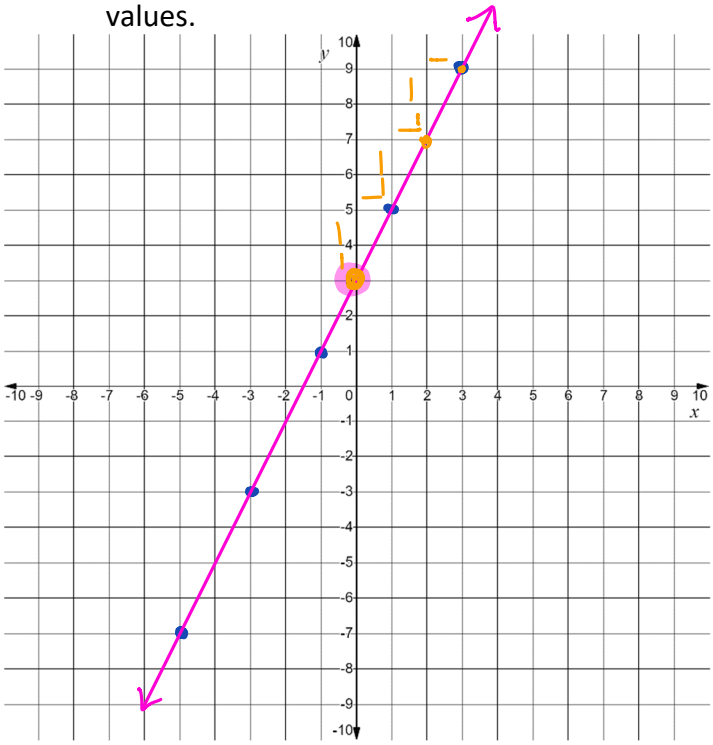
a. Complete the table of values.

x	y
-5	$2\times(-5)+3 = -7$
-3	$2\times(-3)+3 = -3$
-1	$2\times(-1)+3 = 1$
1	$2\times(1)+3 = 5$
3	$2\times 3+3 = 9$
5	$2\times 5+3 = 13$

(-5, -7) (-3, -3) (-1, 1) (1, 5) (3, 9) (5, 13)

$2 = \frac{+2}{+1}$ ← vertical, ↖ horizontal

b. Graph the ordered pairs in your table of values.



c. Use the equation to calculate the $y-$ coordinate when $x = 9$.

$y = 2x + 3$
$= 2\times(9)+3$
$= 21$

d. For the point $(-12, y)$ what is the value for y?

$y = 2x + 3$
$= 2\times(-12)+3$
$= -21$

e. What are the coordinates for the point that would lie on the $y-$ axis?

↳ vertical axis

$y = 2x + 3 \quad x = 0$
$= 2\times(0)+3$
$= 3$

vertical
horizontal
↓
slope–intercept form
↑
y-intercept