9.3 Linear Relationships

You can graph a linear relation represent by a table of values or an order pair.

First, make a table of values. Check that the values in the table are reasonable

Then, graph using the order pairs in the table.

Whenever possible, choose variable that are representative of the unknown
For example, *h* for height and *t* for temperature.

A formula is a mathematical statement that represents the relationship between specific quantities.
An equation is a mathematical statement with two expressions that have the same value. The two expressions are separated by an equal sign. For example:

x + 2 = 3 y − 7 = -4 3a − 2 = a + 2b
L.S. = R.S.

When choosing numbers for your table of values....

* Choose at least 4 values

Check that they are reasonable
(can it be a negative?)

It is often useful to have a x= 0 value

Evaluate each equation using the given variable

y = 5x − 3 when x = 3
multiply
BEDMAS
$y = 5(3) - 3$
$y = 15 - 3$
$y = 12$

y = -5*x* when *x* = *10*
$y = -5(10)$
$y = -50$

Make a table of values for the equation and draw the graph

x = -2, 0, 2, 4

y = 3x + 2

X	Y
-2	-4
0	2
2	8
4	14

$y = 3(-2) + 2$
$y = -6 + 2$
$y = -4$

$y = 3(0) + 2$
$y = 0 + 2$
$y = 2$

$y = 3(2) + 2$
$y = 6 + 2$
$y = 8$

$y = 3(4) + 2$
$y = 12 + 2$
$y = 14$

* graphing negative