

### 9.3 Linear Relationships

Evaluate each expression if  $x = 3$

a)  $5x$

b)  $x + 10$

c)  $4x - 1$

Is the following relationship linear? Explain how you know.

x			4	6	8		
y			9	13	17		

Write an expression for this table.

What would y be if x was 16?

#### Graphing a Formula

The speed of sound is 300m per second. This is expressed using the formula:

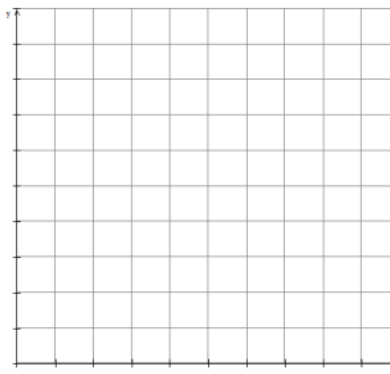
$$d = 300t$$

where d is the distance in meters and t is the time in seconds.

Construct a table of values for this formula:

t				
d				

Considerations:



Use your table to draw the graph.

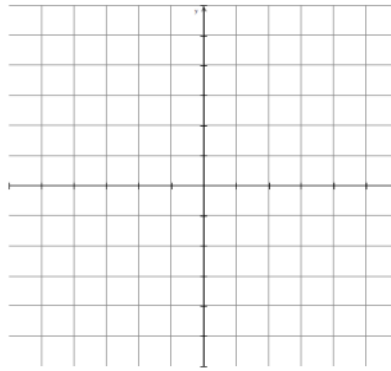
Could you make a prediction for how far the sound travels in 2.5 seconds?

### Graphing a Relationship using Integers

Sometimes, you may use integers instead of whole numbers:

Use the linear equation  $y = -2x + 1$  to make a table and construct a graph

x					
y					



Considerations:

What number should I use for  $x$ ?

How many numbers should I pick?

Use your relationship to determine the missing number in  $(4, y)$

#### Summary

A formula is:

A graph can be made from a formula or relationship by: