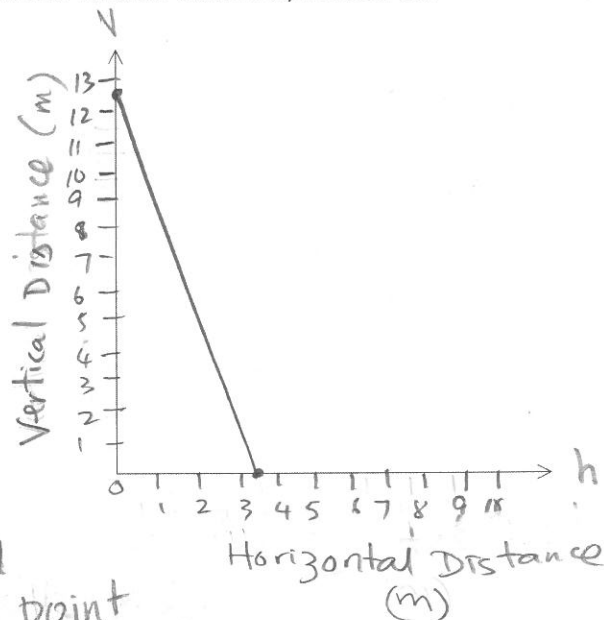


Example 5: Applications of Linear Functions

A ball moves from a rooftop to the ground, according to the equation $V = -3.5h + 12.5$ where h is the horizontal distance, in metres, and V is the vertical distance, in metres.

Draw the graph of this situation.



a) What does h represent?

Horizontal Distance

b) What does V represent?

Vertical Distance

c) What does the V -intercept represent?

Height of the rooftop.
(from the ground.)

d) What does the h -intercept represent?

The distance on the ground
from the building to the point
where the ball hits the ground.

e) How far from the base of the building did the ball land?

3.57 m

`y=0` `2nd` `TRACE` `ENTER` `5` `ENTER` 3 times

f) Does the graph continue forever in both directions? Explain.

No. The graph begins from the rooftop and ends
at ground level - where the ball hits the ground.

g) What are the limitations on the values of V ?

Height of the building.

h) What are the limitations on the values of h ?

Ground. The ball will stop when it reaches the ground.