Learning Goals

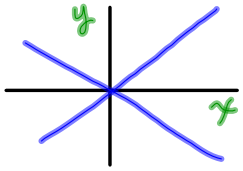
1. To understand what a linear relation is.
2. To understand the characteristics of direct variation.
3. To understand the characteristics of partial variation.
4. To be able to distinguish between a partial and direct variation.

3.2 - Direct and Partial Variation

Direct Variation

$y = 2x$ (m = 2, b = 0)

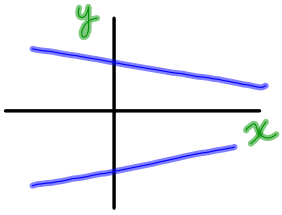
1. The equation looks like: $y = mx$ (no number at the end)
2. The graph passes through the origin (0, 0).



Partial Variation

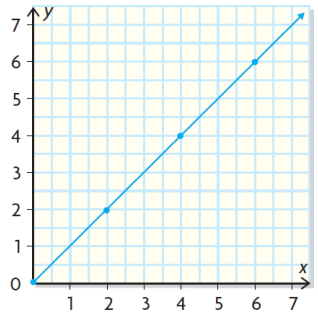
$y = 2x + 7$ (m = 2, b = 7)

1. The equation looks like $y = mx + b$ (number at the end)
2. The graph does not pass through the origin but rather (0, b)

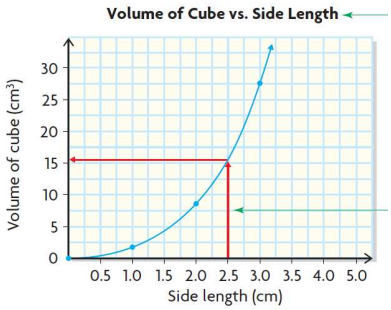


Linear Relation - a relation in which the graph forms a straight line.

Linear Relation Example



Non- Linear Relation Example



Example One

Determine whether each of the following is an example of partial or direct variation.

a) $y = 4x - 3$

∴ partial variation

b) $y = -\frac{1}{2}x$

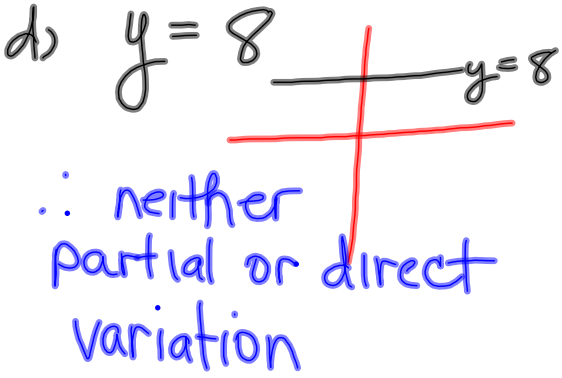
∴ direct variation

c) $y = -3 + 7x$

$y = 7x - 3$

∴ partial variation

d) $y = 8$



∴ neither partial or direct variation

Complete: p. 151 # 1 - 3 (all).