

MINISTRY OF EDUCATION
CHRISTMAS TERM
SEPTEMBER 2020

GRADE 11

SUBJECT: MATHEMATICS

WEEK 6: LESSON 2

TOPIC: RELATIONS FUNCTIONS AND GRAPHS

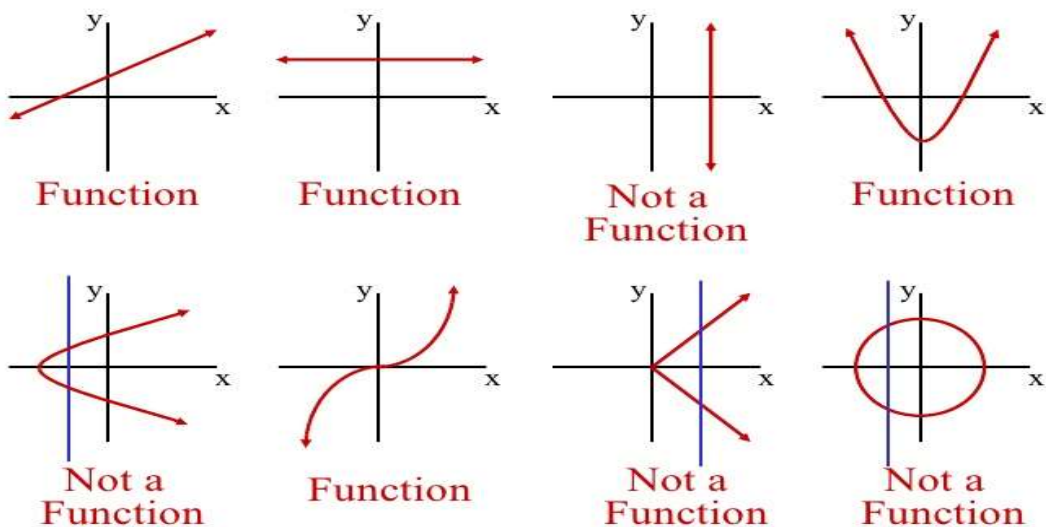
SUB-TOPIC: Non-linear functions.

OBJECTIVE: Draw and interpret the graphs of non-linear graphs.

Content:

A vertical line test can be done to identify functions from non-functions. To do this test, we draw a vertical line through the graph, and if it has one and only one intersection, at any given point, then it is considered as a function. If, however, the vertical line make more than one intersection, at any given point on the graph, it is therefore deemed a relation or non-function.

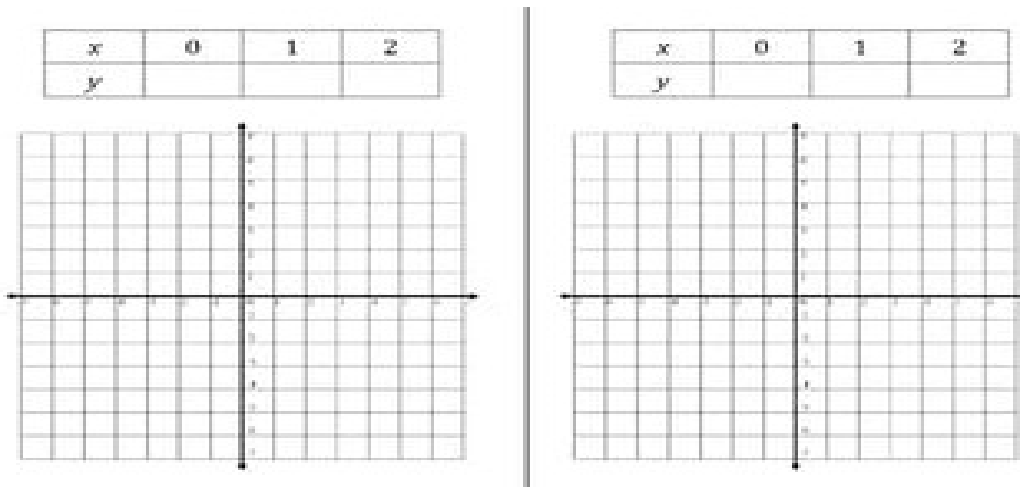
Vertical Line Test - Functions



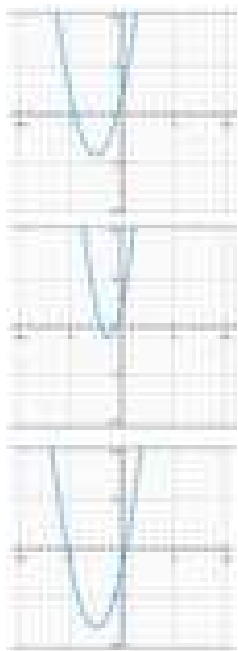
Complete the tables below and draw the graphs for each. Label each graph linear or non-linear.

1. $y = x + 3$

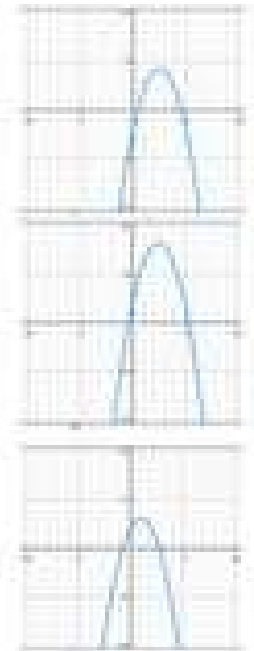
2. $y = 3x$



3. Match the following equations to their corresponding graph.



- $2x^2 + 5x + 2$
- $-x^2 + 2x + 2$
- $-x^2 + 5x - 2$
- $x^2 + 5x - 2$
- $x^2 + 5x + 2$
- $-x^2 + 5x + 2$



Reference: https://www.google.com/search?q=identifying%20non%20linear%20graphs-%20worksheet&tbm=isch&hl=en&hl=en&tbs=rimg%3ACSHhCwsKvAvLYbjXks swIKlr&rlz=1C1YQLS_enGY769GY769&sa=X&ved=0CCMQuIIBahcKEwiohc KI9O3rAhUAA