

LESSON NOTES

Year/Level: 12

Subject: Mathematics

Strand	3 GRAPHS
Sub Strand	3.1.1 Study and Interpret graphs
Content Learning Outcome	Students should be able to: <ul style="list-style-type: none"> • Sketch the square roots functions. • State its domain and range.

LESSON NOTES

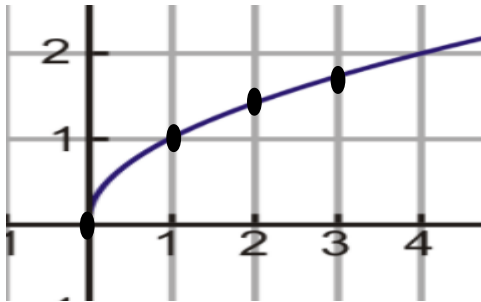
Square Roots Graphs

Example 1: using table of values method

Sketch: $y = \sqrt{x}$

X	0	1	2	3
y	0	1	1.41	1.73

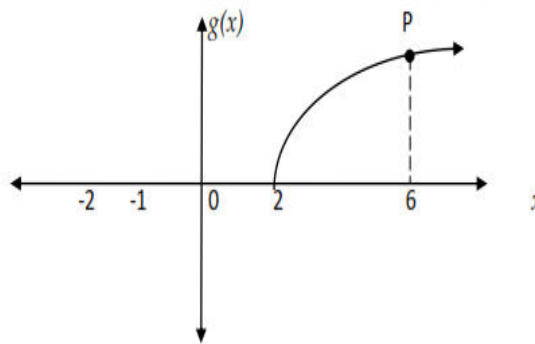
The basic shape obtained is



Domain: $\{x: x \geq 0, x \in R\}$

Range: $\{y: y \geq 0, y \in R\}$

EXAMPLE 2: The diagram below shows the graph of $g(x) = \sqrt{x-2}$



- a) Write down the coordinates of point P.
- b) Find $g(-x)$.
- c) On the pair of axis drawn, draw the graph of $g(-x)$.
- d) Describe the transformation.
- e) State the domain and range of $g(-x)$.

Example 2 solutions

a. coordinates of P can be found by substituting 6 in the equation, thus

$$g(6) = \sqrt{6-2}$$

$$= \sqrt{4}$$

$$= 2 \text{ therefore } (6, 2)$$

b. $g(-x)$ can be found by substituting $-x$ in $g(x)$.

$$g(x) = \sqrt{x-2}$$

$$g(-x) = \sqrt{-x-2}$$

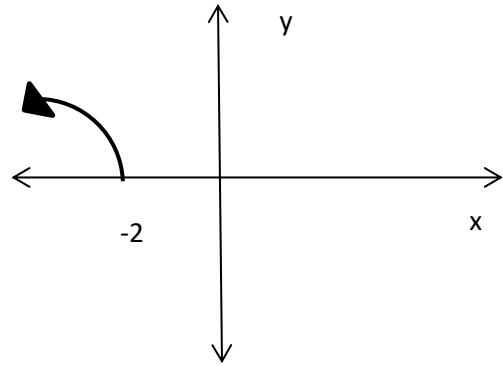
c. Using table of values

X	-3	-2	-1	0
y	1	0	undefine	undefine

d. Reflection in the y-axis.

e. Domain: $\{x: x \leq -2, x \in R\}$

Range: $\{v: v \geq 0, v \in R\}$



Activity

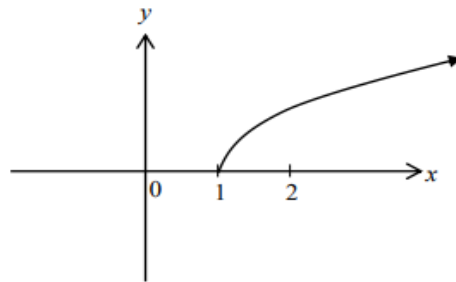
Exercises 34 Page 111 and 112

1, 2, 3

And

2019 FYr12 exam paper

2. The equation of the **square root** function shown below is



A. $y = \sqrt{x} + 1$

B. $y = \sqrt{x + 1}$

C. $y = \sqrt{x} - 1$

D. $y = \sqrt{x - 1}$

(1 mark)