30.11	2	3	4
Outcome 2a: I can demonstrate understanding of radical functions.	I can demonstrate the process of: • sketch the graph of $y = \sqrt{(x)}$ using a table of values • identify the role of a, b, h, k given an equation	I can use transformations to graph $y - k = a\sqrt{b(x - h)}$ I can explain the role of a, b, h, and k given an equation. Sketch the graph of $y = \sqrt{f(x)}$ given the graph of $y = f(x)$ I can compare the domains and ranges of $y = \sqrt{f(x)}$ and $y = f(x)$ Graphically solve Radical Equations with technology	I can determine a radical function from its graph Explain level 2 and 3 concepts Express level 2 and 3 answers in simplest form with no errors

No Graphing Calculators

Level 2

1. Sketch the graph of $y = \sqrt{x}$ using a table of values.
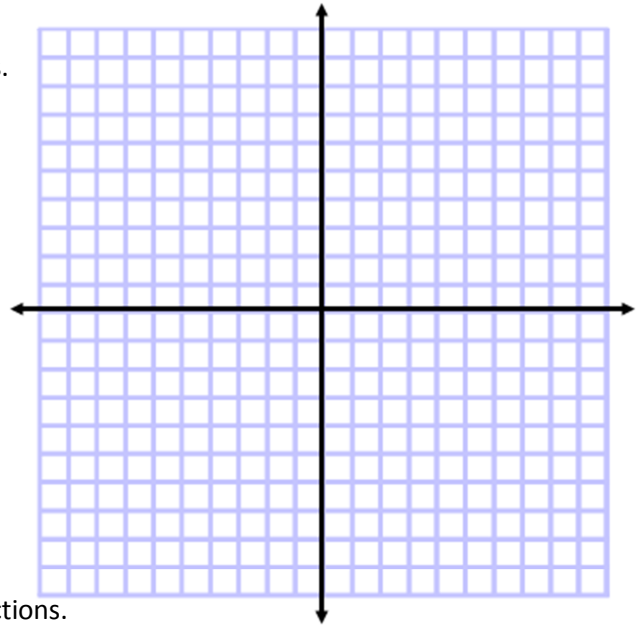
2. Identify a, b, h, and k for each of the following functions.

a) $y = 6\sqrt{x - 2}$

   a=

   b=

   h=

   k=

b) $y = \sqrt{-2x} + 5$
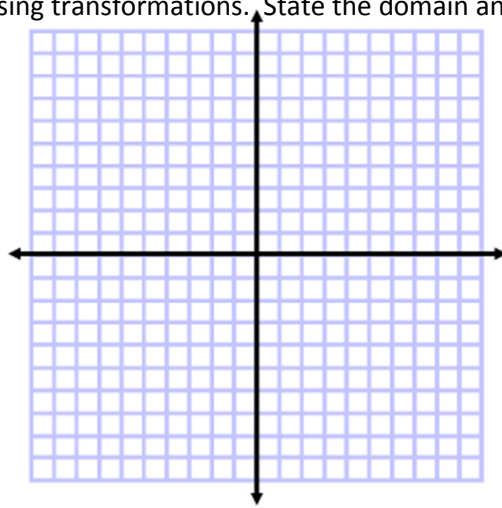
   a=

   b=

   h=

   k=

Level 3

3. Sketch the graph of the function using transformations. State the domain and range of the function.
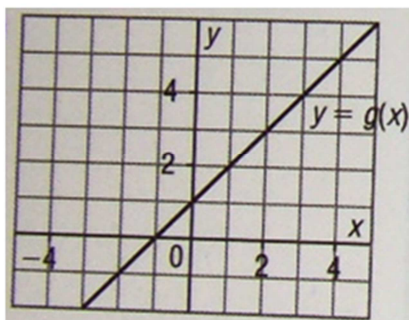
$$f(x) = \sqrt{-x} + 2$$

Domain:

Range:

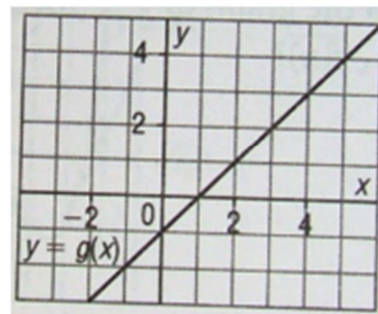4. Explain how to transform the graph of $y = \sqrt{x}$ to obtain the graph of the following function.

$$g(x) = 2\sqrt{x+1}$$

5. Using the graph of $y = g(x)$, sketch the graph of $y = \sqrt{g(x)}$

a)

b)

Domain: Domain:
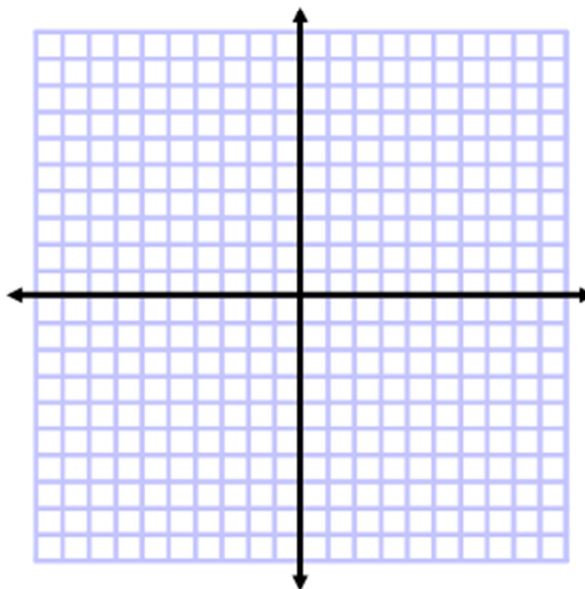
Range: Range:

Graphing Calculators for this Part.
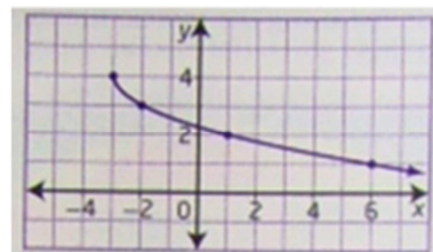
6. Solve the following equation graphically.

   a) $4 - x = \sqrt{6 - x}$

Level 4

7. Which parameters in $y = a\sqrt{b(x - h)} + k$ affect the domain of $y = \sqrt{x}$? Explain using examples.

8. Write the equation of a radical function of the form $y = a\sqrt{b(x - h)} + k$

9. When a satellite is h kilometres above the Earth, the time for one complete orbit, t minutes, can be calculated using this formula $t = 1.66 \times 10^{-4}\sqrt{(h + 6370)^3}$. A communications satellite is positioned so that it is always above the same point on the Earth's surface. It takes 24h for this satellite to complete one orbit. What height should the height of the satellite be?