Question 4 [3 mark]

Sketch the graph of the semicircle $y = -\sqrt{4-(x+1)^2}$. Clearly label the centre and the axes intercepts.

Question 5 [2 marks]

Determine the value of k, the constant of variation, and hence complete the table of values, if it is known that $y \propto \sqrt{x}$.

x	2	4
y	2	8

Mini Test Chap 4, 5 & 6

Semester One 2018
Mathematics Methods
Calc Free
(Formula sheet allowed)

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Name:

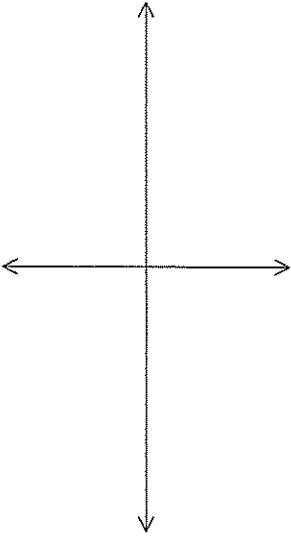**Time: 30 minutes**   **Total:**   /26 marks

Working needs to be shown for full marks

Question 1 [2 marks]

Find the axes intercepts of the curve with equation $y = -2\sqrt{4-x} + 3$.

Question 2 [1 marks]

Write down the equation of the circle with centre $(2, -1)$ and radius 6.

Question 3 [2 marks]

Give the equation of the asymptotes of the rectangular hyperbola with equation

$y = \dfrac{2}{x} + 3$.

Question 6 [2,2= 4 marks]

a varies directly as b^2 and inversely as c, and $a = 1$ when $b = 2$ and $c = 3$. Find:

a a when $b = 3$ and $c = 2$

b c when $b = 4$ and $a = 2$.

Question 7 [1 marks]

What is the maximal domain of the function f with rule $f(x) = \sqrt{5x-7}$.

Question 8 [2 marks]

What are the co-ordinates of the point $(3, 5)$ after a reflection in the x-axis followed by a translation of 2 units in the positive direction of the x-axis.

Question 9 [1,3= 4 marks]

For the function with rule $f(x) = 2x + 5$ find:

a $f(2)+f(3)$

d $f(a+2)\cdot f(a-2)$

Question 10 [5 marks]

What is the sequence of transformations that takes the graph of $y = x^2$ to the graph of $y = 2(-x-3)^2 +4$.