

Solomon Practice Paper

Core Mathematics 1C

Time allowed: 90 minutes

Centre: www.CasperYC.club

Name:

Teacher:

Question	Points	Score
1	3	
2	4	
3	6	
4	6	
5	7	
6	7	
7	8	
8	8	
9	12	
10	14	
Total:	75	

How I can achieve better:

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4. (a) Evaluate $(5\frac{4}{9})^{-\frac{1}{2}}$

[2]

(b) Find the value of x such that

[4]

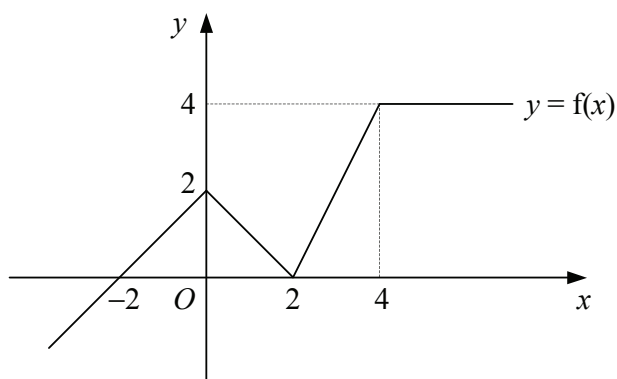
$$\frac{1+x}{x} = \sqrt{3},$$

giving your answer in the form $a + b\sqrt{3}$ where a and b are rational.

Total: 6



8. Figure shows the graph of $y = f(x)$.



- (a) Write down the number of solutions that exist for the equation [2]
- $f(x) = 1$,
 - $f(x) = -x$.
- (b) Labelling the axes in a similar way, sketch on separate diagrams the graphs of [6]
- $y = f(x - 2)$,
 - $y = f(2x)$

Total: 8



10. The curve C has the equation $y = f(x)$ where

$$f(x) = (x + 2)^3.$$

(a) Sketch the curve C , showing the coordinates of any points of intersection with the coordinate axes. [3]

(b) Find $f'(x)$. [4]

The straight line l is the tangent to C at the point $P(-1, 1)$.

(c) Find an equation for l . [3]

The straight line m is parallel to l and is also a tangent to C .

(d) Show that m has the equation $y = 3x + 8$. [4]

Total: 14

