

Name: \_\_\_\_\_

Original Score: \_\_\_\_\_ / 32 marks

→ \_\_\_\_\_ % → ISM: \_\_\_\_\_ → IB: \_\_\_\_\_

Date: \_\_\_\_\_ Block: \_\_\_\_\_

After Corrections: \_\_\_\_\_ / 32 marks

## **MATH HONORS 2: UNIT 4 QUIZ 1** – Powers and Radicals

**Calculator Inactive – 30 minutes**

1. Simplify the expression  $\frac{\left(\frac{2a^3}{b^2}\right)^3}{a^3b^{-4}c^2 \times a^{-4}c^{-3}}$  assuming that  $a$ ,  $b$  and  $c$  are not equal to zero. Show the key algebraic steps of your solution. Write your answer with positive exponents only. **(4M)**

2. Simplify the radical expressions below:

**(7M)**

a.  $\sqrt{49x^2y^3z^8}$

b.  $\frac{1}{4+\sqrt{2}} - (3\sqrt{2}-1)$

3. Equations in the form of  $\sqrt{f(x)} = g(x)$  may have extraneous solutions, while equations in the form of  $\sqrt[3]{f(x)} = g(x)$  do not have extraneous solutions. Explain why.

**(2M)**

4. Solve  $1 > 3\sqrt{3x-1}$  for  $x$ . Show the key algebraic steps of your solution.

(4M)

5. Solve  $x + 2\sqrt{2 - \frac{1}{2}x} = -8$  for  $x$ . Show the key algebraic steps of your solution.

(6M)

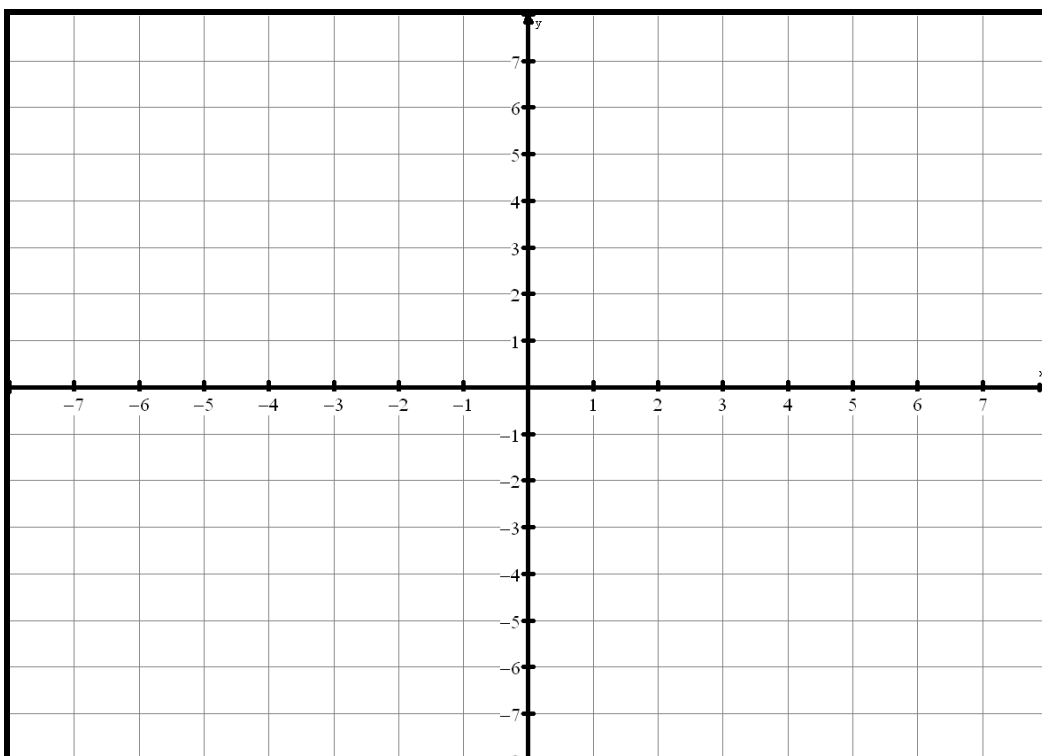
6. Given the function  $g(x) = 3 - \sqrt{8 - 4x}$ :

(7M)

a. Determine the domain and range of  $g(x) = 3 - \sqrt{8 - 4x}$ .

b. Determine the x- and y-intercepts of  $y = g(x)$ .

c. Sketch  $g(x) = 3 - \sqrt{8 - 4x}$  on the grid provided. Show any necessary work that leads to your graph.



## **STUDENT SELF-EVALUATION**

After the time allocated for writing this assessment has passed (or if you have finished early), answer the following questions:

- a. Estimate the letter grade that you achieved on this assessment (e.g. A-, C+, etc.): \_\_\_\_\_
  
- b. Which concepts did you have the most difficulty with during this assessment and/or this unit?

## **TEACHER COMMENTS**

In every formal assessment this year, 2 marks, 1 mark, or 0 marks will be awarded for the clarity of your communication in the presentation of your solutions and your written explanations.

On this assessment, you were awarded: \_\_\_\_\_ / 2 marks for communication.

Additional comments: