



Time Allowed - 2 Hours

St. ID:

St. Name:

Section:

ملاحظة: اكتب خطوات الحل بالتفصيل لجميع الأسئلة داخل دفتر الإجابة
 عما بان عدد الأسئلة (6) ، وعدد الصفحات (2).

(10 Marks: 1+1+ 2+2+2+2)

QUESTION 1:Solve the following equations for x :

A. $2(x - 2) = 3x$

B. $\frac{x + 4}{2} = 3$

C. $|2x - 5| = 3x + 1$

D. $3x^2 - 12 = 0$

E. $x^2 - 5x = -6$

F. $x + \frac{1}{x} = 0$

(4 Marks: 2+2)

QUESTION 2:

Solve the following inequalities and write the solution set in interval notation:

A. $5(x + 2) \geq 3(2x - 1) + 10$

B. $\sqrt{(x + 2)^2} \leq 4$

(3 Marks: 1+2)

QUESTION 3:A. Find the values of real numbers x and y such that $(2x + 8) - 6i = 3yi$ B. Write $\frac{\sqrt{-49} - \sqrt{-25}}{1 + i^3}$ in standard form $(a + bi)$.

(3 Marks 1+2)

QUESTION 4:Consider the function $f(x) = |2x - 4|$ A. Find the intercepts of f B. Graph the function f

QUESTION 5:

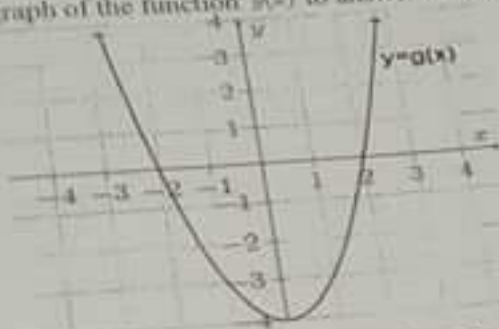
Let $f(x) = x^2 - 9$ and $g(x) = \sqrt{3x - 6}$, find the following:

- A. $(f + g)(5)$
- B. Domain of the function $(\frac{f}{g})(x)$
- C. $(f \circ g)(x)$
- D. The inverse of the function $g(x)$, $x \geq 2$

(4 Marks: 1+1+1+1)

QUESTION 6:

Use the graph of the function $g(x)$ to answer the following:



- A. Identify the interval(s) on which $g(x)$ is increasing and decreasing.
- B. Find the range of the function $g(x)$.
- C. Determine whether the function $g(x)$ is even, odd or neither.
- D. Determine whether the graph of $g(x)$ represents a one-to-one function or not.

Good Luck