ADNOC Schools - Al Ruwais

AP Calculus | Revision | Time: 30 Minutes

Name: _____ Grade/Section: _____ Date: / / 2026

Prepared by Murad Jawaada

Q1) Choose the correct answer

Question 1

1. Find the intervals of increasing and decreasing for $f(x) = x^2 - 4x + 1$

a. Inc: $(2, \infty)$, Dec: $(-\infty, 2)$
b. Inc: $(-\infty, 2)$, Dec: $(2, \infty)$
c. Inc: all real numbers
d. Dec: all real numbers

Question 2

2. Find the intervals of increasing for $f(x) = x^3 - 3x$

a. Inc: $(-1, 1)$
b. Inc: $(-\infty, -1) \cup (1, \infty)$
c. Dec: $(-\infty, \infty)$
d. Inc: all real numbers

Question 3

3. Find the intervals of increasing and decreasing for $f(x) = x^4 - 4x^2$

a. Inc: $(-\infty, -\sqrt{2}) \cup (0, \sqrt{2})$
b. Inc: $(-\sqrt{2}, 0) \cup (\sqrt{2}, \infty)$, Dec: $(-\infty, -\sqrt{2}) \cup (0, \sqrt{2})$
c. Inc: all real numbers
d. Dec: all real numbers

Question 4

4. Find the intervals of increasing for $f(x) = x^3 + 3x^2$

a. Inc: $(-2, \infty)$, Dec: $(-\infty, -2)$
b. Inc: $(-\infty, -2) \cup (0, \infty)$
c. Inc: $(-2, 0)$
d. Dec: all real numbers

Question 5

5. Find the intervals of increasing for $f(x) = x^2(x - 3)$

a. Inc: $(-\infty, 0) \cup (2, \infty)$, Dec: $(0, 2)$
b. Inc: $(0, 2)$
c. Inc: all real numbers
d. Dec: all real numbers

Question 6

6. Find the intervals of increasing for $f(x) = x^3 - 6x^2 + 9x$

a. Inc: $(-\infty, 1) \cup (3, \infty)$
b. Inc: $(1, 3)$
c. Inc: all real numbers
d. Dec: all real numbers

Question 7

7. Find the intervals of decreasing for $f(x) = \frac{1}{x}$

a. Dec: $(-\infty, 0) \cup (0, \infty)$
b. Inc: $(0, \infty)$
c. Inc: all real numbers
d. Dec: only $(0, \infty)$

Question 8

8. Find the intervals of decreasing for $f(x) = \frac{x}{x-1}$

a. Dec: $(-\infty, 1) \cup (1, \infty)$
b. Inc: $(-\infty, 1) \cup (1, \infty)$
c. Inc: $(1, \infty)$
d. Dec: $(1, \infty)$

Question 9

9. Find the intervals of increasing and for
f(x) = ln(x−2)

a. Dec: $(2, \infty)$
b. Inc: all real numbers
c. Inc: $(2, \infty)$
d. Dec: all real numbers

Question 10

10. Find the intervals of increasing for
f(x) = sin x, 0 < x < 2π

a. Inc: $(0, \pi)$
b. Inc: $(0, \frac{\pi}{2}) \cup (\frac{3\pi}{2}, 2\pi)$
c. Dec: $(0, \pi)$
d. Inc: all real numbers

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