PRINTABLE VERSION

Quiz 10

Question 1

Given the following function, calculate $f(-4)$.

$$f(x) = x^2 + 5x$$

a) ◯ 36

b) ◯ 12

c) ◯ 4

d) ◯ −36

e) ◯ −4

f) ◯ None of the above

Question 2

Given the following function, calculate $f(-5)$.

$$f(x) = (x - 7)^2 - 11$$

a) ◯ 133

b) ◯ 155

c) ◯ −155

d) ◯ 325

e) ◯ 263

f) ◯ None of the above

Question 3

Given the following function, calculate $f(2)$.

$$f(x) = \begin{cases} -x^3 + 1 & x < 4 \\ 65 & x = 4 \\ -2x & x > 4 \end{cases}$$

a) ○ -4

b) ○ -63

c) ○ -8

d) ○ 8

e) ○ -7

f) ○ None of the above

Question 4

Given the following function, find $f(x - 2)$.

$$f(x) = 7x^2 - x + 6$$

a) ○ $7x^2 - 29x + 36$

b) ○ $6x - 10$

c) ○ $7x^2 + 29x + 36$

d) ○ $7x^2 + 29x - 36$

e) ○ $x^2 - 29x + 28$

f) ○ None of the above

Question 5

For the function f given by $f(x) = -5x - 8$, evaluate $f\left(\dfrac{1}{a+1}\right)$.

a) ○ $\dfrac{-8a - 13}{a + 2}$

b) ○ $\dfrac{-8a - 13}{a + 1}$

c) $\bigcirc$ $\dfrac{-8\,a + 3}{a + 2}$

d) $\bigcirc$ $\dfrac{8\,a - 13}{a + 1}$

e) $\bigcirc$ $\dfrac{-8\,a + 3}{a + 1}$

f) $\bigcirc$ None of the above

Question 6

For the function f given by $f(x) = 7\,x^2 + 5$, evaluate $\dfrac{f(x + h) - f(x)}{h}$.

a) $\bigcirc$ $-7\,h + 14\,x$

b) $\bigcirc$ $7\,h + 14\,x$

c) $\bigcirc$ $14\,h + 14\,x$

d) $\bigcirc$ $7\,h + 7\,x$

e) $\bigcirc$ $14\,h + 7\,x$

f) $\bigcirc$ None of the above

Question 7

Find the domain of the following function and express the answer in interval notation.

$$f(x) = \sqrt{-10\,x + 7}$$

a) $\bigcirc$ $\left(-\infty, \dfrac{7}{10}\right)$

b) $\bigcirc$ $\left(\dfrac{7}{10}, \infty\right)$

c) $\bigcirc$ $\left[\dfrac{7}{10}, \infty\right)$

d) $\bigcirc$ $\left(-\infty, \dfrac{7}{10}\right]$

e) ⚪ All real numbers

f) ⚪ None of the above

Question 8

Find the domain of the function $f(x) = \sqrt{x^2 + 11x + 24}$

a) ⚪ $(-\infty, -8] \cup [-3, \infty)$

b) ⚪ $(-\infty, 3] \cup [8, \infty)$

c) ⚪ $(-\infty, -8) \cup (-3, \infty)$

d) ⚪ $(-\infty, -8] \cup (-3, \infty)$

e) ⚪ $(-\infty, 3) \cup (8, \infty)$

f) ⚪ None of the above

Question 9

Find the domain of the function $f(x) = \dfrac{2x - 1}{x^2 + 6x + 8}$

a) ⚪ $(-\infty, -4) \cup (-2, \infty)$

b) ⚪ $(-\infty, 2] \cup [2, 4] \cup [4, \infty)$

c) ⚪ $(-\infty, -4] \cup [-4, -2] \cup [-2, \infty)$

d) ⚪ $(-\infty, 2) \cup (2, 4) \cup (4, \infty)$

e) ⚪ $(-\infty, -4) \cup (-4, -2) \cup (-2, \infty)$

f) ⚪ None of the above

Question 10

Find the domain of the function $f(x) = \dfrac{\sqrt{x - 3}}{x + 6}$

a) ⚪ $(-6, \infty)$

b) ⚪ $[3, -6) \cup (-6, \infty)$

c) ○ $[3, \infty)$

d) ○ $(3, -6] \cup [-6, \infty)$

e) ○ $[3, -6] \cup [-6, \infty)$

f) ○ None of the above