Multiple Choice Question Assignment Assignment Group El1-M1M2

Subject: Mathematics for Engineering II

B) $f'(x) = -2\sin(x) - 6\csc(x)$

B) $g'(z) = 10 \cot(z) - 2 \tan(z)$

B) $f'(w) = \sec^3(w) + \sec(w) \tan^2(w)$

B) $h'(t) = 3t^2 - 2t \cos(t) - t \cos(t)$

D) មិនមាន

D) មិនមាន

D) មិនមាន

D) មិនមាន

D) មិនមាន

B) មិនមាន

ចូររកចម្លើយនៃដេរីវេរបស់អនុគមន៍ខាងក្រោម៖ I.

1)
$$f(x) = 2\cos(x) - 6\sec(x) + 3$$

A)
$$f'(x) = -2\sin(x) - 6\sec(x)\tan(x)$$

A)
$$f'(x) = -2\sin(x) - 6\sec(x)\tan(x)$$

C)
$$f'(x) = -2\sin(x) - 6\tan(x)$$

2)
$$g(z) = 10 \tan(z) - 2 \cot(z)$$

A)
$$g'(z) = 10 \csc^2(z) + 2 \sec^2(z)$$

C)
$$g'(z) = 10 \sec^2(z) + 2 \csc^2(z)$$

3)
$$f(w) = \tan(w) \sec(w)$$

A)
$$f'(w) = sec^2(w) + sec^2(w) tan(w)$$

C)
$$f'(w) = \csc^3(w) + \csc(w) \tan^2(w)$$

4)
$$h(t) = t^3 - t^2 \sin(t)$$

A)
$$h'(t) = 3t^2 - 2t \cos(t) - t^2 \cos(t)$$

C)
$$h'(t) = 3t^2 - 2t \sin(t) - t^2 \cos(t)$$

$$5) y = 6 + 4\sqrt{x}\csc(x)$$

$$A) \quad y' = 2x^{-\frac{1}{2}}\csc\left(x\right) - 4\sqrt{x}\csc\left(x\right)\cot\left(x\right) \qquad B) \quad y' = \frac{1}{2}x^{-\frac{1}{2}}\csc\left(x\right) - 4\sqrt{x}\csc\left(x\right)\tan\left(x\right)$$

C)
$$y' = 6 + 4\sqrt{x}\csc(x)\cot(x)$$

6)
$$Z(v) = \frac{v + \tan(v)}{1 + \csc(v)}$$

A)
$$Z'(v) = \frac{1 + \cot(v)}{(1 + \csc(v))^2}$$

C)
$$Z'(v) = \frac{\left(1 + \sec^2(v)\right)\left(1 + \csc(v)\right) + \left(v + \tan(v)\right)}{\left(1 + \csc(v)\right)^2}$$

$$D) \quad Z'(v) = \frac{\left(1 + \sec^2\left(v\right)\right)\left(1 + \csc\left(v\right)\right) + \csc\left(v\right)\cot\left(v\right)\left(v + \tan\left(v\right)\right)}{\left(1 + \csc\left(v\right)\right)^2}$$

ចូររកចម្លើយនៃដេរីវេរបស់អនុគមន៍ implicit ខាងក្រោម៖ II.

7)
$$7y^2 + \sin(3x) = 12 - y^4$$

A)
$$y' = \frac{-3\cos(3x)}{14y + 4y^3}$$

B)
$$y' = \frac{-\cos(3x)}{12 - y^2}$$

$$C) y' = \frac{-3\cos(3x)}{y+y^3}$$

D) មិនមានទេ

8)
$$\tan(x^2y^4) = 3x + y^2$$

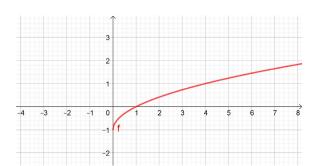
A)
$$y' = \frac{3 - 2xy^4 \sec^2(x^2y^4)}{4x^2y^3 \sec^2(x^2y^4) - 2y}$$

B) $y' = \frac{-2xy^4 \sec^2(x^2y^4)}{4x^2y^3 \sec^2(x^2y^4) - 2y}$

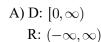
C)
$$y' = \frac{3 - 2xy^4 \sec^2(x^2y^4)}{-2y}$$

D) មិនមានទេ

III. Use the graph to determine the function's domain and range.



9)



B) D:
$$[-\infty, \infty)$$

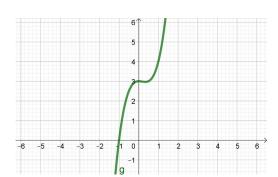
R: $(-1, \infty)$

C) D:
$$[0,\infty)$$

D) D:
$$[0, \infty)$$

R:
$$(-1,\infty)$$

$$R: [0, \infty)$$



10)

A)
$$D:(2,0)$$

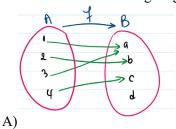
B) D:
$$(-2,0)$$

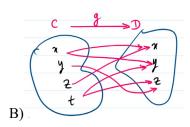
$$R:(-\infty,\infty)$$

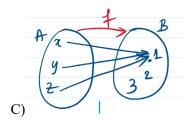
C) D:
$$(-\infty, \infty)$$
 D) D: $(-2, -2)$
R: $(-\infty, \infty)$ R: $(-2, 6)$

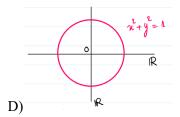
D) D:
$$(-2, -2)$$

- 11) Give the domain and range of the relation: $\{(11,-3),(2,-2),(2,0),(6,2),(18,4)\}$
 - A) domain: $\{-3, -2, 2, 4\}$; range: $\{11, 6, 2, 18\}$
 - B) domain: $\{11,6,2,18\}$; range: $\{-3,-2,2,4\}$
 - C) domain: $\{-3, -2, 0, 2, 4\}$; range: $\{11, 6, 2, 18\}$
 - D) domain: $\{11,6,2,18\}$; range: $\{-3,-2,0,2,4\}$
- Which of the following diagram is a function?









- IV. Determine whether the given function is even, odd, or neither
 - 13) $f(x) = 5x^2 + x^4$
 - A) Odd

B) Even

C) Neither

- 14) $f(x) = -5x^5 + x^3$
 - A) Even

B) Odd

C) Neither

- A) Even 15) $f(x) = x^4 x^3$
 - A) Odd

B) Neither

- C) Even
- V. Evaluate the piecewise function at the given value of the independent variable.
 - 16) $f(x) = \begin{cases} 3x + 1 & \text{if } x < -1 \\ -2x 5 & \text{if } x \ge -1 \end{cases}$; f(2)

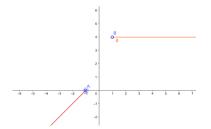
- D) 1
- A) -9 B) -8 C) -3

 17) $f(x) = \begin{cases} -x 4 & \text{if } x < 3 \\ x^2 7 & \text{if } 3 \le x \le 10; \ f(4) \\ \frac{120}{x} + 5 & \text{if } x > 10 \end{cases}$

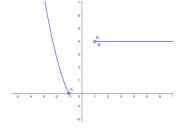
 - A) -9 B) -8 C) -3
- D) 1

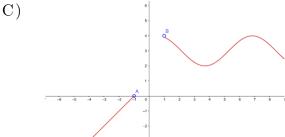
- VI. Which one is the graph of the function?
 - 18) $f(x) = \begin{cases} x+1 & \text{if } x < -1 \\ 4 & \text{if } x > -1 \end{cases}$

A)

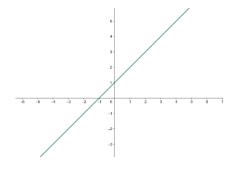


B)



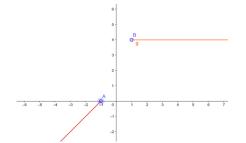


C)

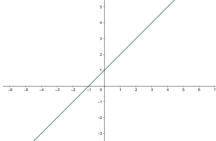


19) $f(x) = \begin{cases} x+1 & \text{if } x < -1 \\ 4 & \text{if } x > -1 \\ 0 & \text{if } -1 \le x \le 1 \end{cases}$

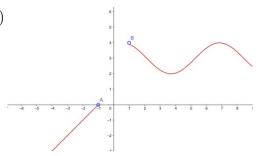
A)



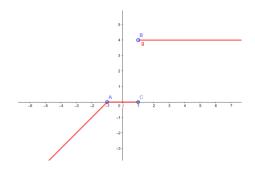
B)



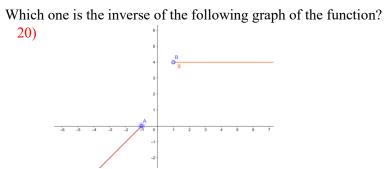
C)



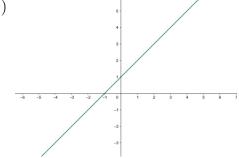
D)



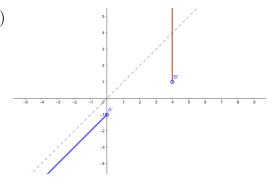
VII.

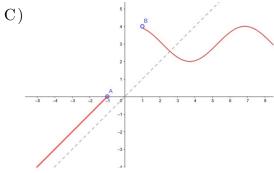


A)

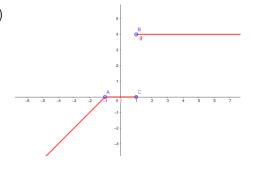


B)

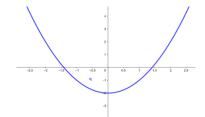




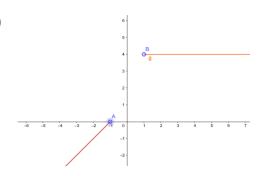
D)



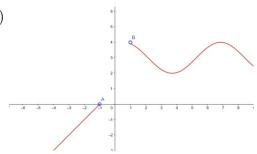
21)

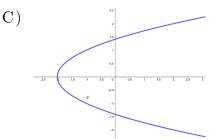


A)

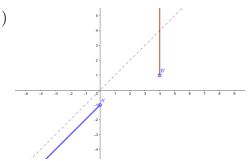


B)





D)



ចូររកអនុគមន៍បណ្តាក់ ក្នុងករណីនីមួយៗខាងក្រោម VIII.

22)
$$f(x) = 2x^2$$

22)
$$f(x) = 2x^2$$
 និង $g(x) = \frac{1}{x-1}$ ។ គណនា $f \circ g$?

A)
$$2\frac{1}{(x-1)^2}$$
 B) -8 C) $2(x-1)^2$ D) $\frac{(x-1)^2}{2}$

C)
$$2(x-1)^2$$

D)
$$\frac{(x-1)^2}{2}$$

23)
$$f(x) = x^2$$

23)
$$f(x) = x^2$$
 និង $g(x) = \frac{1}{\sec x - 1}$ ។ គណនា $g \circ f$?

A)
$$(\sec^2 x - 1)^{-}$$

$$A) \ (\sec^2 x - 1)^{-1} \qquad B) \ \sin\!\left(\!\frac{1}{(\sec x - 1)^2}\right) \qquad C) \ 2\frac{1}{(x - 1)^2} \qquad D) \ (\sec x^2 - 1)^{-1}$$

C)
$$2\frac{1}{(x-1)^2}$$

D)
$$(\sec x^2 - 1)^{-1}$$

24)
$$m(x) = sech(x^2)$$

24)
$$m(x) = \mathrm{sech}(x^2)$$
 និង $n(x) = \sin(x) - \frac{x^2}{3}$ ។ គណនា $n \circ m$?

A)
$$\sin^2(\sec x - 1)$$

$$A \) \ \sin^2(\sec x - 1) \qquad B \) \ \sin\left({\rm sech}(x^2) \right) - \frac{{\rm sech}^2(x^2)}{3} \qquad C \) \ 2 \frac{1}{(x-1)^2} \qquad D \) \ \frac{(x-1)^2}{2}$$

C)
$$2\frac{1}{(x-1)^2}$$

$$D) \frac{(x-1)^2}{2}$$

ចូរគណនាតម្លៃអនុគមន៍នីមួយៗខាងក្រោម IX.

25)
$$\sin(\cos^{-1}x) = ?$$

A)
$$\sqrt{x^2-1}$$

B)
$$x^2 - 3$$

A)
$$\sqrt{x^2-1}$$
 B) x^2-1 C) $2(x-1)^2$ D) $\sqrt{1-x^2}$

D)
$$\sqrt{1-x^2}$$

26)
$$\cos(\sin^{-1}x) = ?$$

A)
$$\sqrt{x^2 - 1}$$
 B) $\sqrt{1 - x^2}$

B)
$$\sqrt{1-x^2}$$

C)
$$2(x-1)^2$$
 D) x^2-1

D)
$$x^2 - 1$$

27)
$$\tan(2\tan^{-1}x) = ?$$

A)
$$\frac{2x}{1-x^2}$$

B)
$$2(x-1)$$

A)
$$\frac{2x}{1-x^2}$$
 B) $2(x-1)^2$ C) $\frac{2}{1-x^2}$ D) x^2-1

D)
$$x^2 - 1$$

28)
$$\tan^{-1}\left(\frac{1}{2}\right) + \tan^{-1}\left(\frac{1}{2}\right) = ?$$

A)
$$\frac{\pi}{4}$$

B)
$$\pi^2$$
 C) $\frac{2}{1-x^2}$ D) x^2-1

D)
$$x^2 - 1$$

Use the given conditions to write an equation for the line in the indicated form X.

Passing through (4,3) and parallel to the line whose equation is y = 2x - 6; pointslope form is

A)
$$y - 3 = x - 4$$

A)
$$y-3=x-4$$
 B) $y-4=2(x-3)$ C) $y=2x$ D) $y-3=2(x-4)$

D)
$$y - 3 = 2(x - 4)$$

Passing through (5,3) and perpendicular to the line whose equation is y = 2x + 7; point-slope form is

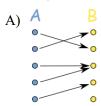
A)
$$y = -2x - 11$$

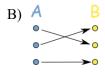
B)
$$y-5=\frac{1}{2}(x-3)$$

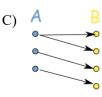
A)
$$y = -2x - 11$$
 B) $y - 5 = \frac{1}{2}(x - 3)$ C) $y - 3 = \frac{1}{2}(x - 5)$

$$y - 3 = \frac{1}{2}(x + 5)$$

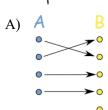
31) ក្នុងជ្យាក្រាមខាងក្រោម តើមួយណាជាអនុគមន៍ប្រកាន់?

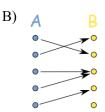


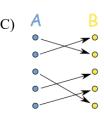




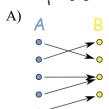
32) ក្នុងដ្យាក្រាមខាងក្រោម តើមួយណាជាអនុគមន៍ពេញ?

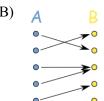


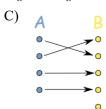




33) ក្នុងដ្យាក្រាមខាងក្រោម តើមួយណាជាអនុគមន៍មួយទល់មួយ?







- ចូរបញ្ជាក់លក្ខណៈរបស់អនុគមន៍ខាងក្រោម៖ XI.
 - 34) $f(x) = x^2 3$
 - A) ពេញ
- B) ប្រកាន់
- C) មួយទល់មួយ
- D) មិនដឹង

35) $f(x) = \frac{x^3 + 7}{x^2 - 2}$

- A) ប្រកាន់
- B) ពេញ
- C) មួយទល់មួយ
- D) មិនដឹង

- 36) $f(x) = \frac{1}{x^2 + 2}$
- A) មិនដឹង
- B) ប្រកាន់
- C) មួយទល់មួយ
- D) ពេញ

- 37) $f(x) = \frac{x^3 2}{x^2}$
- A) មួយទល់មួយ
- в) ប្រកាន់
- C) ពេញ
- D) មិនដឹង

- 38) $f(x) = \sin(x), -\pi < x < \pi$
- A) មួយទល់មួយ B) ពេញ
- C) ប្រកាន់
- D) មិនដឹង

- ចូរបញ្ជាក់ចន្លោះម៉ូណូតូនរបស់អនុគមន៍ខាងក្រោម៖ XII.
 - 39) $f(x) = \frac{1}{x-1}$
 - A) ចុះលើ $\mathbb{R} \setminus \{1\}$ B) កើនលើ \mathbb{R}
- C) បើរលើ $\mathbb{R} \setminus \{1\}$ D) មិនដឹង

- 40) $f(x) = \sin(x), -\pi < x < \pi$
- A) ប៊ុះលើ $\mathbb R$ B) កើនលើ $-\pi < \mathrm{x} < \pi$
- C) បើវលើ $-\pi < \mathrm{x} < \pi$ D) មិនដឹង

- **41)** $g(x) = -x^3 2x^2 + x$, -2 < x < 0
- A) $\overline{\mathbf{0}}$: \mathbf{N} $\mathbf{0}$ $\mathbf{0}$
- C) បើរលើ \mathbb{R} D) មិនដឹង

- 42) $f(x) = -3, 0 < x < +\infty$
- A) ប៊ុះលើ $-\infty < x < 0$ B) កើនលើ $\mathbb R$ C) បើរលើ $(0,+\infty)$ D) មិនដឹង

- តើមួយណាជាចម្រាសរបស់អនុគមន៍ខាងក្រោម៖ XIII.
 - $43) \quad f(x) = \sinh(x)$
 - A) $f^{-1}(x) = \ln(x + \sqrt{x^2 + 1})$ B) $f^{-1}(x) = \ln(x + \sqrt{x^2 1})$ C) $f^{-1}(x) = \ln(\frac{1 + x}{1 x})$

- 44) $h(x) = \tanh(x)$
- A) $h^{-1}(x) = \frac{1}{2} \ln \left(\frac{1+x}{1-x} \right), -1 < x < 1$ B) $h^{-1}(x) = \frac{1}{2} \ln \left(x^2 1 \right)$ C) $h^{-1}(x) = \ln \left(\frac{1+x}{1-x} \right)$

- តើមួយណាជាកន្សោមតម្លៃនៃអនុគមន៍ខាងក្រោម៖ XIV.
 - 45) $f(x) = 2^x$
 - A) $\frac{f(x+3)}{f(x-1)} = f(4)$ B) $\frac{f(x+3)}{f(x-1)} = f(4)$ C) $\frac{f(x+3)}{f(x-1)} = f(4)$ D) Assign

- 46) $f(x) = \frac{1}{x}$

- A) $-f(3) = f\left(\frac{3}{-2}\right)$ B) $f(1) f(3) = f\left(\frac{3}{2}\right)$ C) $f(-2) = f\left(\frac{ab}{-b-a}\right)$ D) \mathfrak{A}

- បមើយ
- 47) $g(x) = \frac{x-1}{x+1}$
- A) $f\left(-\frac{1}{x}\right) = -\frac{1}{x}$ B) $f(x) f(3) = f\left(\frac{x}{3}\right)$ C) f(x-2) = -x D) គ្មានបម្លើយ

តើអនុគមន៍ខាងក្រោម ជាប់ត្រង់តម្លៃណា ? XV.

48)
$$f(x) = \begin{cases} \frac{\sin x}{x}, & x \neq 0 \\ 0, & x = 0 \end{cases}$$

A)
$$x = \frac{\pi}{4}$$
 B) $x = 0$ C) $x = \frac{1}{2}$ D) $x = -1$

$$B) x = 0$$

C)
$$x = \frac{1}{2}$$

D)
$$x = -1$$

49)
$$f(x) = x - |x|$$

A)
$$x = \frac{1}{2}$$
 B) $x = 0$

$$B) x = 0$$

$$C) x = 1$$

C)
$$x = 1$$
 D) $x = -1$

50)
$$f(x) = \begin{cases} \frac{x-6}{x-3}, & x < 0 \\ 2, & x = 0 \\ \sqrt{4+x^2}, & x > 0 \end{cases}$$

A)
$$x = \frac{1}{2}$$
 B) $x = -1$ C) $x = 1$ D) $x = 0$

B)
$$x = -1$$

$$C) x = 1$$

$$D) x = 0$$

តើអនុគមន៍ខាងក្រោមមិនជាប់ត្រង់តម្លៃ \mathbf{x}_0 ឬទេ ? XVI.

51)
$$f(x) = \begin{cases} -2x + 4, & x > 1 \\ x + 1, & x < 1 \\ -1, & x = 1 \end{cases}$$

A) ជាប់ត្រង់
$$x_0 = 1$$

A) ជាប់ត្រង់
$$x_0 = 1$$
 B) មិនជាប់ត្រង់ $x_0 = 1$ C) គ្មានយោបល់

52)
$$f(x) = \begin{cases} x+1, & x \ge 2\\ 2x-1, & 1 < x < 2\\ x-1, & x \le 1 \end{cases}$$

$${
m A}\,)$$
 មិនជាប់ត្រង់ ${
m x}_0=1$ ${
m B}\,)$ ជាប់ត្រង់ ${
m x}_0=1$

$$(\mathbf{B})$$
 ជាប់ត្រង់ $\mathbf{x}_0 = 1$

C) គ្មានយោបល់

គណនាលីមីតខាងក្រោម៖ XVII.

53)
$$\lim_{t \to -1} \frac{t+1}{|t+1|}$$

A)
$$-1$$

54)
$$\lim_{z\to 4} \frac{\sqrt{z}-2}{z-4}$$

A)
$$\frac{1}{4}$$
 B) $+\infty$

$$B) + \infty$$

55)
$$\lim_{x \to -3} \frac{\sqrt{2x + 22} - 4}{x + 3}$$

$$B) +\infty$$

B)
$$+\infty$$
 C) $\frac{1}{4}$

56)
$$\lim_{x\to 0} \frac{x}{3-\sqrt{x+9}}$$

A)
$$-6$$

$$C) \frac{1}{4}$$

D)
$$+\infty$$

XVIII. គេអោយអនុគមន៍ $f(x) = \begin{cases} 7-4x & x < 1 \\ x^2+2 & x \geq 1 \end{cases}$ គណនាលីមីតខាងក្រោម៖

 $57) \quad \lim_{x \to -6} f(x)$

A)
$$-6$$

D)
$$+\infty$$

$$58) \quad \lim_{x \to 1} f(x)$$

$$A) -6$$

D)
$$+\infty$$

XIX. តើមួយណាជានិយមន័យនៃដេរីវេរបស់អនុគមន៍ខាងក្រោម៖

59)
$$f(t) = \frac{t}{1+t}$$

$$A) \ g'(t) = \lim_{h \to 0} \frac{1}{h} \left(\frac{t+h}{t+h+1} - \frac{t}{t+1} \right)$$

B)
$$g'(t) = \lim_{h \to 0} h \left(\frac{t+h}{t+h+1} - \frac{t}{t+1} \right)$$

C)
$$g'(t) = \frac{1}{(1+t)^2}$$

60)
$$R(z) = \sqrt{5z - 8}$$

A)
$$R'(z) = \frac{1}{h} \lim_{h \to 0} \sqrt{5(z+h) - 8} - \sqrt{5z - 8}$$

B)
$$R'(z) = -\frac{5}{2(5z-8)^2}$$

C)
$$R'(z) = \lim_{h \to 0} \frac{\sqrt{5(z+h)-8} - \sqrt{5z-8}}{h}$$

61)
$$f(x) = 2x^2 + 35$$

$$A) f'(x) = 4x$$

B)
$$f'(x) = \lim_{h \to 0} \frac{2(x+h)^2 + 35 - (2x^2 + 35)}{h}$$

D)
$$f'(x) = \frac{1}{h} \lim_{h \to 0} 2(x+h)^2 + 35 - (2x^2 + 35)$$

62)
$$R(z) = \frac{5}{z}$$

$$A) R'(z) = -\frac{5}{z^2}$$

B)
$$R'(z) = \lim_{h \to 0} \left(\frac{5}{z+h} - \frac{5}{z} \right)$$

C)
$$R'(z) = \frac{1}{h} \lim_{h \to 0} \left(\frac{5}{z+h} - \frac{5}{z} \right)$$

XX. ចូរកេចម្លើយនៃដេរីវេលំដាប់ n របស់អនុគមន៍ខាងក្រោម៖

63)
$$y = \frac{1}{x}$$

A)
$$y^{(n)} = \frac{(-1)^n n!}{x^{(n+1)}}$$

B)
$$y^{(n)} = \frac{(-1)^n n!}{x^{(n)}}$$

$$C) \ y^{(n)} = \frac{n!}{x^{(n+1)}}$$

64)
$$y = xe^{2x}$$

A)
$$y^{(n)} = 2^n(x+n)e^{2x}$$

B)
$$y^{(n)} = e^{2x} + 2xe^{2x}$$

C)
$$y^{(n)} = 2^{n-1}e^{2x}(2x + n)$$

65)
$$f(x) = x^n$$

A)
$$f^{(n)}(x) = n!x^{n-(n-1)}$$

C)
$$f^{(n)}(x) = n!x$$

D)
$$f^{(n)}(x) = n!$$

XXI. ចូររកចម្លើយនៃដេវីវេលំដាប់ 2 របស់អនុគមន៍ខាងក្រោម៖

$$66) \quad y = \csc(x)$$

A)
$$y'' = -\csc(x) + 2\csc^{3}(x)$$

C)
$$y'' = \sec(x) + 2\csc^3(x)$$

$$D) y'' = -\sec(x)$$

$$67) \quad f(x) = \sinh(x)$$

$$A) f''(x) = \sinh(x)$$

C)
$$f''(x) = \cosh(x)$$

$$D) f''(x) = -\sinh(x)$$

68)
$$g(x) = \frac{1}{1-x}$$

A)
$$g''(x) = \frac{2}{(1-x)^3}$$

B)
$$g''(x) = \frac{2}{(1-x)^4}$$

C)
$$g''(x) = \frac{-2}{(1-x)^3}$$

XXII. ចូររកចម្លើយនៃដេរីវេលំដាប់ 3 របស់អនុគមន៍ខាងក្រោម៖

69)
$$y = x^3$$

A)
$$v''' = 1$$

B)
$$y''' = 6$$

C)
$$y''' = -6$$

70)
$$y = \frac{1}{1-x}$$

A)
$$y''' = \frac{6}{(1-x)^4}$$

B)
$$y''' = \frac{1}{(1-x)^6}$$

C)
$$y''' = -6(1-x)^{-4}$$

$$71) \quad y = \sec(x)$$

$$A) y''' = \sec(x)$$

B)
$$y''' = \frac{\sin^3(x) + 5\sin(x)}{\cos^4(x)}$$

D)
$$y''' = \frac{\sin^3(x) + 5\sin(x)}{\cos(x)}$$

XXIII. ចូររកចម្លើយរបស់អាំងតេក្រាលកំណត់ខាងក្រោម៖

72)
$$I = \int_{2}^{0} x^{2} + 1 dx$$

A) I =
$$\frac{14}{3}$$

B) I =
$$\frac{10}{3}$$

C) I =
$$-\frac{14}{3}$$

D) I =
$$-\frac{4}{2}$$

73)
$$I = \int_0^2 10x^2 + 10dx$$

A) I =
$$\frac{140}{3}$$

B) I =
$$\frac{10}{3}$$

C) I =
$$-\frac{140}{3}$$

D) I =
$$-\frac{4}{3}$$

74)
$$J = \int_0^2 t^2 + 1 dt$$

A) J =
$$\frac{14}{3}$$

B) J =
$$\frac{10}{3}$$

C) J =
$$-\frac{10}{3}$$

D) J =
$$-\frac{4}{3}$$

75)
$$\int_{130}^{130} \frac{x^3 - x \sin(x) + \cos(x)}{x^2 + 1} dx$$

A) J =
$$\frac{\pi}{3}$$

B) J =
$$\frac{10}{3}$$

C) J =
$$-\frac{10}{3}$$

D)
$$J = 0$$

76)
$$\int_{6}^{-10} f(x) dx = 23$$
 និង $\int_{-10}^{6} g(x) dx = -9$ គណនា $J = \int_{-10}^{6} 2f(x) - 10g(x) dx$

A)
$$J = 44$$

B) J =
$$\frac{10}{3}$$

C)
$$J = -44$$

D)
$$J = 0$$

77)
$$\int_{12}^{-10} f(x) dx = 6$$
, $\int_{100}^{-10} f(x) dx = -2$ $34 \int_{100}^{-5} f(x) dx = 4$ $54 \int_{-5}^{12} f(x) dx$

A)
$$J = 44$$

B)
$$J = 12$$

C)
$$J = -12$$

ចូររកដេរីវេរបស់អនុគមន៍ខាងក្រោម**៖** XXIV.

78)
$$g(x) = \int_{-\infty}^{x} e^{2t} \cos^2(1-5t) dt$$

A)
$$g'(x) = e^{2x} \cos^2(1 - 5x)$$

B)
$$g'(x) = e^{2x} \cos^2(1+5x)$$

C)
$$g'(x) = 0$$

D)
$$g'(x) = -e^{2x} \cos^2(1 - 5x)$$

79)
$$h(x) = \int_{x^2}^1 \frac{t^4 + 1}{t^2 + 1}$$

A)
$$h'(x) = -2x \frac{x^8 + 1}{x^4 + 1}$$

B)
$$h'(x) = -x \frac{x^8 + 1}{x^4 + 1}$$

C)
$$h'(x) = 2x \frac{x^8 + 1}{x^4 - 1}$$

D)
$$h'(x) = 0$$

80)
$$k(x) = \int_{\sqrt{x}}^{3x} t^2 \sin(1+t^2) dt$$

A)
$$k'(x) = \frac{1}{4}\sqrt{x} + 27\sin(1+9x^2)$$

$$A) \ k^{'}(x) = \frac{1}{4} \sqrt{x} + 27 \sin \left(1 + 9 x^{2}\right) \qquad B) \ k^{'}(x) = -\frac{1}{2} \sin (1 + x) + 27 x^{2} \sin \left(1 + 9 x^{2}\right)$$

C)
$$k'(x) = -\frac{1}{2}\sqrt{x}\sin(1+x)$$

C)
$$k'(x) = -\frac{1}{2}\sqrt{x}\sin(1+x)$$
 D) $k'(x) = -\frac{1}{2}\sqrt{x}\sin(1+x) + 27x^2\sin(1+9x^2)$

81)
$$f(x) = \int_4^x 9\cos^2(t^2 - 6t + 1)dt$$

A)
$$f'(x) = 9\cos^2(x^2 - 6x + 1)$$

B)
$$f'(x) = -9\sin^2(x^2 - 6x + 1)$$

C)
$$f'(x) = -9\sin^2(x^2 - 6x)$$