MATHEMATICS DEPARTMENT
MATH 1411 -Quiz 1-
First Semester 2021/2022

5 Key

• Name (Arabic)..... Number..... Section.....14D.....

Q1) The range of the function $f(x) = \sqrt{9 - x^2}$ is

1. $(-\infty, -9)$
2. $(-3, 3)$
3. $(9, \infty)$
4. $[0, 3]$

Q2) If f and g are odd functions , then the $f * g$ is

1. even
2. odd
3. odd and even
4. neither odd nor even

Q3) $\lim_{x \to 0} \frac{1-sin(x)}{2\cos x}$

$\frac{1-0}{2(1)}$

1. $\frac{1}{2}$
2. ∞
3. 0
4. 1

Q4) The graph of $f(x) = \frac{2x}{x+1}$ has

1. an oblique asymptote $y = x + 1$
2. a vertical asymptote $x = -2$
3. horizontal asymptote at $y = 2$

Key

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• Name (Arabic)..... Number..... Section.....14D.....

Q1) The range of the function $f(x) = \sqrt{4 - x^2}$ is

1. $[0, 2]$
2. $(-2, 2)$
3. $(2, \infty)$
4. $(-\infty, -2)$

Q2) If f, g are functions such that f is odd and g is even , then the function $f * g$ is

1. even
2. odd
3. odd and even
4. neither odd nor even

Q3) $\lim_{x \to 0} \frac{1-sin(x)}{\cos x}$ $\frac{1-0}{1} = 1$

1. $\frac{1}{2}$
2. ∞
3. 0
4. 1

Q4) The graph of $f(x) = \frac{x^2}{x+1}$ has

1. no oblique asymptote
2. a vertical asymptote $x = -1$
3. horizontal asymptote at $y = 2$

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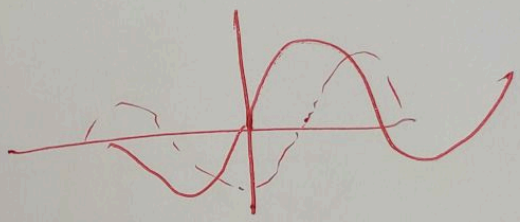
• Name (Arabic)..... Number..... Section.....16D.....

Q1) The domain of the function $h(x) = \frac{1}{x^2-4}$ is

1. $(-2, 2)$
2. $(-\infty, \infty)/\{-2, 2\}$
3. $(-\infty, -2) \bigcup (2, \infty)$
4. $(0, \infty)$

Q2) The graph of the function $y = \sin(x - \frac{\pi}{2})$ is symmetric about



1. x- axis
2. origin
3. y- axis
4. none

Q3) $\lim_{x\to 0} \frac{\tan x}{3x}$

1. $\frac{1}{3}$
2. ∞
3. 0
4. 3

Q4) The graph of $f(x) = \frac{x^2}{x+1}$ has

1. an oblique asymptote $y = x + 2$
2. a vertical asymptote $x = 2$
3. no horizontal asymptote

5 key form 1

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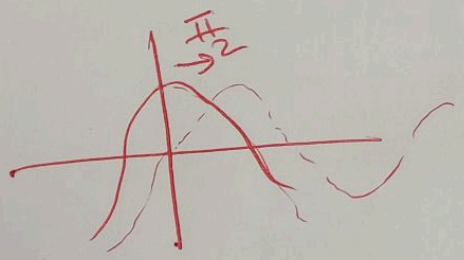
• Name (Arabic)..... Number..... Section.....16D.....

Q1) The domain of the function $h(x) = \frac{1}{x^2+4}$ is

1. $(-2, 2)$
2. $(0, \infty)$
3. $(-\infty, -2) \bigcup (2, \infty)$
4. $(-\infty, \infty)$

Q2) The graph of the function $y = \cos(x - \frac{\pi}{2})$ is symmetric about

1. x- axis
2. origin
3. y- axis
4. none



Q3) $\lim_{x \to 0} \frac{\tan 3x}{x}$

1. $\frac{1}{3}$
2. ∞
3. 0
4. 3

Q4) The graph of $f(x) = \frac{x^2}{x+1}$ has

1. an oblique asymptote $y = x - 1$
2. a vertical asymptote $x = 2$
3. horizontal asymptote at $y = \frac{1}{2}$

key

5

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• Name (Arabic)..... Number..... Section.....20D.....

Q1) The range of the function $f(x) = csc^2(x)$ is

1. $(0, 1]$
2. $[1, \infty)$
3. $(-1, 1)$
4. $[0, \infty)$

$\csc^2 x = \frac{1}{\sin^2 x}$

$0 < \sin^2 x \leq 1$

$\frac{1}{\sin^2 x} \geq 1$

Q2) If $f(x)$ is odd function and $g(x)$ is even function , then $f + g$ is

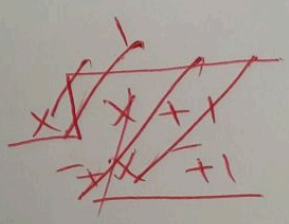
1. odd
2. even
3. odd and even
4. neither odd nor even

Q3) $\lim_{x \to 0} \frac{\sin x}{2x}$

1. 0
2. ∞
3. $\frac{1}{2}$
4. 2

Q4) The graph of $f(x) = \frac{x}{x+1}$ has

1. an oblique asymptote $y = x - 1$
2. a vertical asymptote $x = 2$
3. no oblique asymptote



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• Name (Arabic)..... Number..... Section.....20D.....

Q1) The range of the function $f(x) = csc^2(x)$ is

1. $(-1, 1)$
2. $[0, \infty)$
3. $(0, 1]$
4. $[1, \infty)$

Q2) If $f(x)$ is odd function and $g(x)$ is even function , then $f - g$ is

1. odd
2. even
3. odd and even
4. neither odd nor even

Q3) $\lim_{x \to 0} \frac{\sin 2x}{x}$

1. 0
2. ∞
3. $\frac{1}{2}$
4. 2

Q4) The graph of $f(x) = \frac{2x^2}{x-1}$ has

1. an oblique asymptote $y = 2x + 2$
2. a vertical asymptote $x = 2$
3. no oblique asymptote

$$
\begin{array}{r|l}
x-1 & 2x^2 \\
-(2x^2 - 2x) & 2x + 2 \\
\hline
2x & \\
-(2x - 2) & \\
\hline
2 &
\end{array}
$$

key 5

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• Name (Arabic)..... Number..... Section.....7D.....

Q1) The range of the function $f(x) = \frac{1}{x^2+4}$ is

1. $(0, \frac{1}{4}]$
2. $[\frac{1}{4}, \infty)$
3. $(-\infty, \frac{1}{4})$
4. $[0, \infty)$

Q2) The function $f(x) = \frac{1}{\sqrt{x^2-1}}$ is

1. odd
2. even
3. odd and even
4. neither odd nor even

Q3) $\lim_{x\to 0} \frac{1-\cos x}{sin^2(x)}$

1. 0
2. ∞
3. $\frac{1}{2}$
4. 2

Q4) The graph of $f(x) = \frac{x}{x+1}$ has

1. an oblique asymptote $y = x - 1$
2. a vertical asymptote $x = 2$
3. no horizontal asymptote
4. horizontal asymptote at $y = 1$

Key (5)

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• Name (Arabic)..... Number..... Section.....7D.....

Q1) The range of the function $f(x) = \frac{1}{x^2+9}$ is

1. $[\frac{1}{9}, \infty)$
2. $(-\infty, \frac{1}{9})$
3. $[0, \infty)$
4. $(0, \frac{1}{9}]$

Q2) The function $f(x) = \frac{x}{\sqrt{x^2-1}}$ is

1. odd
2. even
3. odd and even
4. neither odd nor even

Q3) $\lim_{x\to 0} \frac{sin^2(x)}{1-\cos x}$

1. 0
2. ∞
3. $\frac{1}{2}$
4. 2

Q4) The graph of $f(x) = \frac{x}{x+1}$ has

1. an oblique asymptote $y = x - 1$
2. a vertical asymptote $x = -1$
3. no horizontal asymptote
4. horizontal asymptote at $y = 2$