(8) The distance between the points $(0,-1)$ and $(1,3)$ is

(a) $\sqrt{37}$ unit. (b) $\sqrt{26}$ unit.

(c) $\sqrt{17}$ unit. (d) $\sqrt{10}$ unit.

(9) The x-intercept of the following line $4y+x+5=0$ is

(a) 5 (b) -5

(c) 4 (d) -4

(10) Equation of the line of slope 3 and y-intercept -7 is

(a) $y-3x+7=0$ (b) $y-3x-7=0$

(c) $y+3x-7=0$ (d) $y+3x+7=0$

(11) Slope of the line that passes through the points $(-2,3)$ and $(2,7)$ is

(a) 7 (b) 3

(c) 2 (d) 1

(12) Slope of the perpendicular line to $y=-3x+2$ is

(a) $\frac{1}{2}$ (b) $-\frac{1}{2}$

(c) $\frac{1}{3}$ (d) $-\frac{1}{3}$

(13) Equation of the line that passes through the points $(0,0)$ and $(1,6)$ is

(a) $y=6(x-1)$ (b) $y=x$

(c) $y=6x-1$ (d) $y=6x$

(14) Equation of the vertical line that passes through the point $(\pi,-\pi)$ is

(a) $x=-\pi$ (b) $x=\pi$

(c) $y=-\pi$ (d) $y=\pi$

(15) If graph of the function $f(x)=\frac{1}{x^2}$ is shifted downward by a distance 4 units, then the new graph can be represented by

(a) $\frac{1}{(x-4)^2}$ (b) $\frac{1}{(x+4)^2}$

(c) $\frac{1}{x^2}+4$ (d) $\frac{1}{x^2}-4$

جامعة جدة
University of Jeddah
Faculty of Science
Department of Mathematics

C

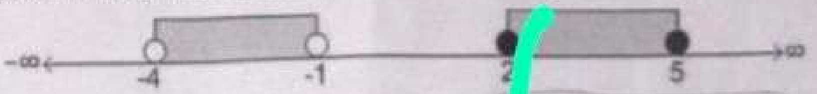
Course Code: MATH 101
Academic Year: 1439-1440 H
Academic Term: Second
Exam: 1

Exam Pages: 5
No. of Questions: 33
Exam Marks: 30
Exam Time: 90 Minutes

Student Name: ....
ID: ....

Calculator is **NOT** allowed.

(1) Choose the intervals that describe the following shaded regions.



(a) $(-4,-1)\cup(2,5]$ (b) $(-4,-1)\cup[2,5]$

(c) $[-4,-1]\cup(2,5]$ (d) $[-4,-1)\cup[2,5)$

(2) Solution of the inequality $4x+7\geq 11$ is

(a) $(1,\infty)$ (b) $(-\infty,1)$

(c) $[1,\infty)$ (d) $(-\infty,1]$

(3) Solution is the inequality $3\leq 2x-1\leq 9$ is

(a) $(2,5]$ (b) $[2,5)$

(c) $(2,5)$ (d) $[2,5]$

(4) Solution of the inequality $x^2-7x+6\geq 0$ is

(a) $(-\infty,1]\cup[6,\infty)$ (b) $(-\infty,2]\cup[3,\infty)$

(c) $(-\infty,1)\cup(6,\infty)$ (d) $(-\infty,2)\cup(3,\infty)$

(5) The solutions of $|2x+5|=9$ are

(a) $x=2$ and $x=7$ (b) $x=-7$ and $x=2$

(c) $x=-2$ and $x=7$ (d) $x=-7$ and $x=-2$

(6) The solution's set of $|2x+5|\leq 9$ is

(a) $(-7,2)$ (b) $(-\infty,-7)\cup(2,\infty)$

(c) $[-7,2]$ (d) $(-\infty,-7]\cup[2,\infty)$

(7) The solution's set of $|2x+5|\geq 9$ is

(a) $(-7,2)$ (b) $(-\infty,-7)\cup(2,\infty)$

(c) $[-7,2]$ (d) $(-\infty,-7]\cup[2,\infty)$

انفق

(a) $\cos(35^\circ)$

(b) $\sin(35^\circ)$

(c) $\cos(25^\circ)$

(d) $\sin(25^\circ)$

(32) $\dfrac{\sin^2(75^\circ)+\cos^2(75^\circ)}{\sec(50^\circ)}=$

(a) $\sin(50^\circ)$

(b) $\cos(50^\circ)$

(c) $\csc(50^\circ)$

(d) $\sec(50^\circ)$

(33) If $\tan(\theta)=\dfrac{-1}{3}$, where $\dfrac{\pi}{2}\leq\theta\leq\pi$, then $\sin(\theta)=$

(a) $\dfrac{1}{\sqrt{10}}$

(b) $\dfrac{-3}{\sqrt{10}}$

(c) $\sqrt{10}$

(d) $\dfrac{-\sqrt{10}}{3}$

Best Wishes

(21) The function $f(x)=\sin(x)+x$ is

(a) neither even nor odd function.

(b) an even function.

(c) an even and odd function.

(d) an odd function.

(22) The trigonometric function $\cos(\theta)$ is

(a) non-symmetric.

(b) symmetric about y-axis.

(c) symmetric about x-axis.

(d) symmetric about the origin.

(23)

If $f(x)=\begin{cases} x^2+4; & x \geq -1 \\ x-3; & x<-1 \end{cases}$, then $f(1)$

(a) 3

(b) 4

(c) 5

(d) 6

(8) The distance between the points $(0,-1)$ and $(1,5)$ is

(a) $\sqrt{37}$ unit.

(b) $\sqrt{26}$ unit.

(c) $\sqrt{17}$ unit.

(d) $\sqrt{10}$ unit.

(9) The x-intercept of the following line $5y+x+4=0$ is

(a) 5

(b) -5

(c) 4

(d) -4

(10) Equation of the line of slope -3 and y-intercept 7 is

(a) $y-3x+7=0$

(b) $y-3x-7=0$

(c) $y+3x-7=0$

(d) $y+3x+7=0$

(11) Slope of the line that passes through the points $(-2,4)$ and $(2,8)$ is

(a) 4

(b) 1

(c) 8

(d) 2

(12) Slope of the perpendicular line to $y=-2x+3$ is

(a) $\frac{1}{2}$

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

(c) $\frac{1}{3}$

(d) $-\frac{1}{3}$

(13) Equation of the line that passes through the points $(0,0)$ and $(1,3)$ is

(a) $y=3x$

(b) $y=3(x-1)$

(c) $y=x$

(d) $y=3x-1$

(14) Equation of the horizontal line that passes through the point $(-\pi,\pi)$ is

(a) $x=-\pi$

(b) $x=\pi$

(c) $y=-\pi$

(d) $y=\pi$

(15) If graph of the function $f(x)=\frac{1}{x^2}$ is shifted upward by a distance 5 units, then the new graph can be represented by

(a) $\frac{1}{(x-5)^2}$

(b) $\frac{1}{(x+5)^2}$

(c) $\frac{1}{x^2}+5$

(d) $\frac{1}{x^2}-5$

(16) Domain of the function $f(x)=\frac{x+4}{x^2-25}$ is

(a) $\mathbb{R}-\{-2,2\}$ (b) $\mathbb{R}-\{-3,3\}$

(c) $\mathbb{R}-\{-4,4\}$ (d) $\mathbb{R}-\{-5,5\}$

(17) If $f(x)=\frac{1}{\sqrt{x-3}}$, then the domain of $f(x)$ is given by

(a) $(-3,\infty)$ (b) $(-\infty,-3)$

(c) $(3,\infty)$ (d) $(-\infty,3)$

(18) Domain of the following function $f(x)=\frac{\sqrt{x}}{x-4}$ is

(a) $\mathbb{R}-\{4\}$ (b) $[0,\infty)-\{4\}$

(c) $\mathbb{R}-\{-4\}$ (d) $(-\infty,0]-\{-4\}$

(19) If $f(x)=x^2$ and $g(x)=2x$, then $(f \circ g)(x)=$

(a) x^2+2x (b) $2x^3$

(c) $2x^2+x$ (d) $4x^2$

(20) The function $f(x)=2x^3-4x$ is

(a) an odd function. (b) an even and odd function.

(c) an even function. (d) neither even nor odd function.

(21) The function $f(x)=\sin(x)+x$ is

(a) neither even nor odd function. (b) an even function.

(c) an even and odd function. (d) an odd function.

(22) The trigonometric function $\cos(\theta)$ is

(a) non-symmetric. (b) symmetric about y-axis.

(c) symmetric about x-axis. (d) symmetric about the origin.

(23) If $f(x)=\begin{cases} x^2+4; & x\geq -1 \\ x-3; & x<-1 \end{cases}$, then $f(1)$

(a) 3 (b) 4

(c) 5 (d) 6

(24) $\lfloor 2.5 \rfloor =$

(a) 2 (b) 2.5

(c) 3.5 (d) 4

(25) Domain of the greatest integer function is

(a) the rational numbers. (b) the natural numbers.

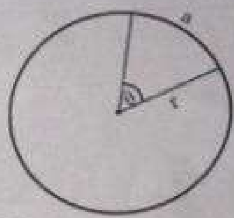
(c) the real numbers. (d) the integer numbers.

(26) $72^\circ \equiv$

(a) $\frac{\pi}{10}$ (b) $\frac{2\pi}{10}$

(c) $\frac{3\pi}{10}$ (d) $\frac{4\pi}{10}$

(27) From the graph, if the radius (r) = 2 cm and subtended angle is (θ) = 1.3 rad, then the arc (a) =



(a) 2.4 cm (b) 2.6 cm

(c) 2.8 cm (d) 3 cm

(28) $\left|\tan\left(150^\circ\right)\right| =$

(a) $\sqrt{3}$ (b) $\frac{1}{\sqrt{3}}$

(c) $\frac{\sqrt{3}}{2}$ (d) $\frac{2}{\sqrt{3}}$

(29) $\tan\left(60^\circ\right) \times \tan\left(45^\circ\right) =$

(a) $\frac{1}{2}$ (b) $\frac{1}{\sqrt{3}}$

(c) 2 (d) $\sqrt{3}$

(30) $\csc^2 x - \cot^2 x =$

(a) 1 (b) $\sin^2 x$

(c) -1 (d) $\cos^2 x$

(8) The distance between the points $(0,-1)$ and $(1,3)$ is

(a) $\sqrt{37}$ unit.

(b) $\sqrt{26}$ unit.

(c) $\sqrt{17}$ unit.

(d) $\sqrt{10}$ unit.

(9) The x-intercept of the following line $4y+x+5=0$ is

(a) 5

(b) -5

(c) 4

(d) -4

(10) Equation of the line of slope 3 and y-intercept -7 is

(a) $y-3x+7=0$

(b) $y-3x-7=0$

(c) $y+3x-7=0$

(d) $y+3x+7=0$

(11) Slope of the line that passes through the points $(-2,3)$ and $(2,7)$ is

(a) 7

(b) 3

(c) 2

(d) 1

(12) Slope of the perpendicular line to $y=-3x+2$ is

(a) $\frac{1}{2}$

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

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(a) $y=6(x-1)$

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(14) Equation of the vertical line that passes through the point $(\pi,-\pi)$ is

(a) $x=-\pi$

(b) $x=\pi$

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(a) $\frac{1}{(x-4)^2}$

(b) $\frac{1}{(x+4)^2}$

(c) $\frac{1}{x^2}+4$

(d) $\frac{1}{x^2}-4$

(24) $\lfloor 4.6 \rfloor =$

(a) 3.6

(b) 4.6

(c) 5

(d) 4

(25) Domain of the greatest integer function is

(a) the integer numbers.

(b) the real numbers.

(c) the rational numbers.

(d) the natural numbers.

(26) $54^\circ =$

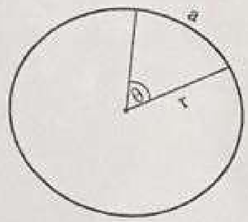
(a) $\frac{\pi}{10}$

(b) $\frac{2\pi}{10}$

(c) $\frac{3\pi}{10}$

(d) $\frac{4\pi}{10}$

(27) From the graph, if the radius (r) $= 2$ cm and subtended angle is $(\theta) = 1.5$ rad, then the arc (a) $=$



(a) 2.4 cm

(b) 2.6 cm

(c) 2.8 cm

(d) 3 cm

(28) $\left|\cot\left(150^\circ\right)\right| =$

(a) $\sqrt{3}$

(b) $\frac{1}{\sqrt{3}}$

(c) $\frac{\sqrt{3}}{2}$

(d) $\frac{2}{\sqrt{3}}$

(29) $\sec\left(60^\circ\right) \times \cot\left(45^\circ\right) =$

(a) $\frac{1}{2}$

(b) $\frac{1}{\sqrt{3}}$

(c) 2

(d) $\sqrt{3}$

(30) $\csc^2 x - \cot^2 x =$

(a) $\sin^2 x$

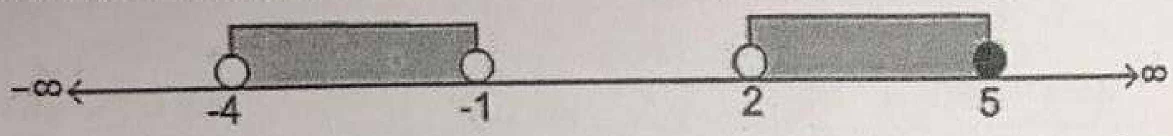
(b) 1

(c) $\cos^2 x$

(d) -1

Calculator is NOT allowed.

(1) Choose the intervals that describe the following shaded regions.



(a) $(-4,-1)\cup(2,5]$
(b) $(-4,-1)\cup[2,5]$
(c) $[-4,-1]\cup(2,5]$
(d) $[-4,-1)\cup[2,5)$

(2) Solution of the inequality $4x+7\leq 11$ is

(a) $(1,\infty)$
(b) $(-\infty,1)$
(c) $[1,\infty)$
(d) $(-\infty,1]$

(3) Solution is the inequality $3<2x-1<9$ is

(a) $(2,5]$
(b) $[2,5)$
(c) $(2,5)$
(d) $[2,5]$

(4) Solution of the inequality $x^2-5x+6\geq 0$ is

(a) $(-\infty,1]\cup[6,\infty)$
(b) $(-\infty,2]\cup[3,\infty)$
(c) $(-\infty,1)\cup(6,\infty)$
(d) $(-\infty,2)\cup(3,\infty)$

(5) The solutions of $|2x+5|=9$ are

(a) $x=2$ and $x=7$
(b) $x=-7$ and $x=-2$
(c) $x=-2$ and $x=7$
(d) $x=-7$ and $x=2$

(6) The solution's set of $|2x+5|<9$ is

(a) $(-\infty,-7]\cup[2,\infty)$
(b) $(-7,2)$
(c) $(-\infty,-7)\cup(2,\infty)$
(d) $[-7,2]$

(7) The solution's set of $|2x+5|\geq 9$ is

(a) $(-\infty,-7]\cup[2,\infty)$
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(16) Domain of the function $f(x)=\frac{x+1}{x^2-4}$ is

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(17) If $f(x)=\frac{1}{\sqrt{x-5}}$, then the domain of $f(x)$ is given by

(a) $(-\infty,-5)$

(b) $(5,\infty)$

(c) $(-\infty,5)$

(d) $(-5,\infty)$

(18) Domain of the following function $f(x)=\frac{\sqrt{x}}{x-1}$ is

(a) $(-\infty,0]-\{-1\}$

(b) $\mathbb{R}-\{1\}$

(c) $[0,\infty)-\{1\}$

(d) $\mathbb{R}-\{-1\}$

(19) If $f(x)=x^2$ and $g(x)=3x$, then $(f\circ g)(x)=$

(a) $9x^2$

(b) $3x^2+x$

(c) $3x^3$

(d) x^2+3x

(20) The function $f(x)=x^3-5x^2+1$ is

(a) an odd function.

(b) an even and odd function.

(c) an even function.

(d) neither even nor odd function.

(21) The function $f(x)=\sin(x)+x$ is

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(22) The trigonometric function $\cos(\theta)$ is

(a) symmetric about x-axis.

(b) symmetric about the origin.

(c) symmetric about y-axis.

(d) non-symmetric.

(23) If $f(x)=\begin{cases} x^2+2; & x\geq -1 \\ x-3; & x<-1 \end{cases}$, then $f(1)$

(a) 3

(b) 4

(c) 5

(d) 6

(16) Domain of the function $f(x)=\dfrac{x+1}{x^2-4}$ is

(a) $\mathbb{R}-\{-2,2\}$ (b) $\mathbb{R}-\{-3,3\}$

(c) $\mathbb{R}-\{-4,4\}$ (d) $\mathbb{R}-\{-5,5\}$

(17) If $f(x)=\dfrac{1}{\sqrt{x-5}}$, then the domain of $f(x)$ is given by

(a) $(-\infty,-5)$ (b) $(5,\infty)$

(c) $(-\infty,5)$ (d) $(-5,\infty)$

(18) Domain of the following function $f(x)=\dfrac{\sqrt{x}}{x-1}$ is

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(c) $[0,\infty)-\{1\}$ (d) $\mathbb{R}-\{-1\}$

(19) If $f(x)=x^2$ and $g(x)=3x$, then $(f \circ g)(x)=$

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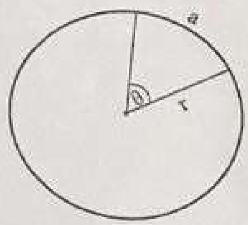

(a) 2.4 cm

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(d) 3 cm

(28) $\left|\cot(150^\circ)\right| =$

(a) $\sqrt{3}$

(b) $\frac{1}{\sqrt{3}}$

(c) $\frac{\sqrt{3}}{2}$

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(29) $\sec(60^\circ) \times \cot(45^\circ) =$

(a) $\frac{1}{2}$

(b) $\frac{1}{\sqrt{3}}$

(c) 2

(d) $\sqrt{3}$

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(a) $\sin^2 x$

(b) 1

(c) $\cos^2 x$

(d) -1

جامعة جدة
University of Jeddah
Faculty of Science
Department of Mathematics

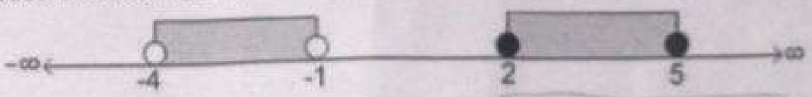
C

Course Code: MATH 101
Academic Year: 1439-1440 H
Academic Term: Second
Exam: 1
Exam Pages: 5
No. of Questions: 33
Exam Marks: 30
Exam Time: 90 Minutes

Student Name: ....
ID: ....

Calculator is **NOT** allowed.

(1) Choose the intervals that describe the following shaded regions.



(a) $(-4,-1)\cup(2,5]$
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(2) Solution of the inequality $4x+7\geq 11$ is

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(c) $(-\infty,1)\cup(6,\infty)$
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(5) The solutions of $|2x+5|=9$ are

(a) $x=2$ and $x=7$
(b) $x=-7$ and $x=2$
(c) $x=-2$ and $x=7$
(d) $x=-7$ and $x=-2$

(6) The solution's set of $|2x+5|\leq 9$ is

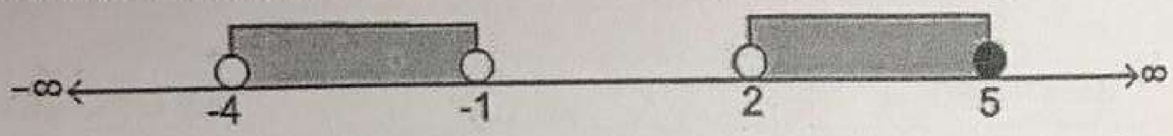
(a) $(-7,2)$
(b) $(-\infty,-7)\cup(2,\infty)$
(c) $[-7,2]$
(d) $(-\infty,-7]\cup[2,\infty)$

(7) The solution's set of $|2x+5|>9$ is

(a) $(-7,2)$
(b) $(-\infty,-7)\cup(2,\infty)$
(c) $[-7,2]$
(d) $(-\infty,-7]\cup[2,\infty)$

Calculator is NOT allowed.

(1) Choose the intervals that describe the following shaded regions.



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(c) $(2,5)$ (d) $[2,5]$

(4) Solution of the inequality $x^2-5x+6\geq 0$ is

(a) $(-\infty,1]\cup[6,\infty)$ (b) $(-\infty,2]\cup[3,\infty)$

(c) $(-\infty,1)\cup(6,\infty)$ (d) $(-\infty,2)\cup(3,\infty)$

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