

Higher Education Ministry King Abdul-Aziz University Faculty of Science Department of Mathematics				First Exam First Semester 2013-2014 Math 110 - 30 Marks Time Allowed: 90 Minutes	
Name				ID	
					A
1) Find the domain of $f(x) = \frac{x-1}{x^2-2x-15}$.					
☐ $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq -3\}$		☐ $\{x \in \mathbb{R} x \neq 3 \text{ and } x \neq 5\}$			
☐ $\{x \in \mathbb{R} x \neq -3 \text{ and } x \neq 5\}$		☐ $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq 3\}$			
2) $\sin\left(\frac{5\pi}{3}\right) =$					
☐ $-\frac{\sqrt{3}}{2}$		☐ $-\frac{2}{\sqrt{3}}$		☐ $\frac{2}{\sqrt{3}}$	
		☐ $\frac{\sqrt{3}}{2}$			
3) Solve $ 3x+5 =7$.					
☐ $-\frac{2}{3}$ or 4		☐ $\frac{2}{3}$ or 4		☐ -4 or $-\frac{2}{3}$	
				☐ -4 or $\frac{2}{3}$	
4) Solve $-14 \leq 5x-4 \leq 11$.					
☐ $[-2,3)$		☐ $(-2,3)$		☐ $[-2,3]$	
				☐ $(-2,3]$	
5) Solve $x^2-5x-24 \geq 0$.					
☐ $(-\infty, -3] \cup [8, \infty)$		☐ $(-\infty, -8] \cup [-3, \infty)$			
☐ $(-\infty, 3] \cup [8, \infty)$		☐ $(-\infty, -8] \cup [3, \infty)$			
6) Find the domain of $f(x) = \sqrt{x^2-3}$.					
☐ $[-\sqrt{3}, \sqrt{3}]$		☐ $(-\sqrt{3}, \sqrt{3})$		☐ $(-\infty, -\sqrt{3}) \cup (\sqrt{3}, \infty)$	
				☐ $(-\infty, -\sqrt{3}] \cup [\sqrt{3}, \infty)$	
7) Solve $ 2x+5 \geq 7$.					
☐ $(-\infty, -6) \cup (1, \infty)$		☐ $(-\infty, -1] \cup [6, \infty)$			
☐ $(-\infty, -1) \cup (6, \infty)$		☐ $(-\infty, -6] \cup [1, \infty)$			
8) $ 1-\pi =$					
☐ $\pi-1$		☐ $1-\pi$		☐ $-1-\pi$	
				☐ $1+\pi$	

9) Solve $ 2x + 5 \leq 7$.			
☐ a	$(-1,6)$	☐ b	$[-1,6]$
☐ c	$(-6,1)$	☐ d	$[-6,1]$
10) Find the slope of the line through the points $(3, -1)$ and $(-1,9)$.			
☐ a	$\frac{5}{2}$	☐ b	$-\frac{2}{5}$
☐ c	$-\frac{5}{2}$	☐ d	-1
11) Find the equation of the line through the points $(3, -1)$ and $(-1,9)$.			
☐ a	$5y + 2x = 1$	☐ b	$y + x = 2$
☐ c	$2y + 5x = 13$	☐ d	$2y - 5x = 13$
12) Find the equation of the line through the point $(2,-1)$ with slope $-\frac{3}{5}$.			
☐ a	$5y + 3x + 11 = 0$	☐ b	$5y + 3x + 7 = 0$
☐ c	$5y + 3x - 1 = 0$	☐ d	$5y + 3x - 5 = 0$
13) The function $f(x) = 2x^3 - 3x + 1$ is			
☐ a	Constant	☐ b	Linear
☐ c	quadratic	☐ d	Cubic
14) Find the slope and y -intercept of the line $2y + 3x - 5 = 0$.			
☐ a	slope $= -\frac{3}{2}$, y -intercept $= \frac{5}{2}$	☐ b	slope $= -\frac{3}{2}$, y -intercept $= -\frac{5}{2}$
☐ c	slope $= -\frac{2}{3}$, y -intercept $= \frac{5}{3}$	☐ d	slope $= -\frac{2}{3}$, y -intercept $= -\frac{5}{3}$
15) The equation for the line passes through $(4,-1)$ and perpendicular to the line $2x - 3y - 3 = 0$ is			
☐ a	$2x - 3y = 3$	☐ b	$2x + 3y = 10$
☐ c	$3x + 2y = -2$	☐ d	$3x + 2y = 10$
16) Find the domain of $f(x) = x^2 - 4$.			
☐ a	$(-2,2)$	☐ b	$(-\infty, \infty)$
☐ c	$[-2,2]$	☐ d	$(-\infty, -2) \cup (-2, \infty)$
17) Find the domain of $f(x) = \sqrt{x} + \sqrt{x-1}$.			
☐ a	$(1, \infty)$	☐ b	$(-\infty, 1)$
☐ c	$[1, \infty)$	☐ d	$(-\infty, 1]$
18) The equation of the Horizontal line passes through the point $(-3, -2)$ is			
☐ a	$y = -2$	☐ b	$x = -2$
☐ c	$y = -3$	☐ d	$x = -3$
19) The Range of $f(x) = \sqrt{x-5}$ is			
☐ a	$(-\infty, \infty)$	☐ b	$(-\infty, 5]$
☐ c	$(0, \infty)$	☐ d	$[0, \infty)$
20) Find the intersection point of the lines $y = -4x + 2$ and $y = x + 7$.			
☐ a	$(-6,1)$	☐ b	$(-1,6)$
☐ c	$(1,-6)$	☐ d	$(6,-1)$

21) If $\tan(x) = \frac{2}{3}$, and $0 < x < \frac{\pi}{2}$, then $\cos(x) =$			
☐ a $\frac{2}{\sqrt{13}}$	☐ b $\frac{\sqrt{13}}{2}$	☐ c $\frac{\sqrt{13}}{3}$	☐ d $\frac{3}{\sqrt{13}}$
22) The irrational number is			
☐ a 3	☐ b 0.333...	☐ c -3	☐ d $\sqrt{3}$
23) The solution of the equation $6x - 2(x - 3) = 10$ is			
☐ a $x = -4$	☐ b $x = 1$	☐ c $x = 4$	☐ d $x = -1$
24) $(-1, 6] \setminus (3, 9) =$			
☐ a $[3, 6]$	☐ b $(-1, 3]$	☐ c $(-1, 3)$	☐ d $[6, 9)$
25) $(-1, 6] \cap (3, 9) =$			
☐ a $[3, 6]$	☐ b $(3, 6]$	☐ c $(-1, 9)$	☐ d $[6, 9)$
26) The midpoint of the segment with endpoints $(\sqrt{7}, -1)$ & $(3\sqrt{7}, 7)$ is			
☐ a $(2\sqrt{7}, 5)$	☐ b $(\sqrt{7}, 2)$	☐ c $(2\sqrt{7}, -3)$	☐ d $(2\sqrt{7}, 3)$
27) Find the distance between the points $(-1, 2)$ and $(2, -1)$ is			
☐ a $2\sqrt{3}$	☐ b $3\sqrt{2}$	☐ c 9	☐ d 3
28) $\sec^2 x$			
☐ A $1 + \tan^2 x$	☐ B $1 - \tan^2 x$	☐ C $-1 - \tan^2 x$	☐ D $-1 + \tan^2 x$
29) $330^\circ =$			
☐ a $\frac{11\pi}{6}$ rad	☐ b $\frac{4\pi}{3}$ rad	☐ c $\frac{5\pi}{3}$ rad	☐ d $\frac{7\pi}{6}$ rad
30) Find the distance between the numbers -6 and 17 .			
☐ a -11	☐ b 23	☐ c -23	☐ d 11

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1) The solution of the equation $6x - 2(x + 3) = -10$ is ☐ $x = -4$ ☐ $x = 1$ ☐ $x = 4$ ☐ $x = -1$
2) $\csc^2 x =$ ☐ $-1 - \cot^2 x$ ☐ $1 + \cot^2 x$ ☐ $1 - \cot^2 x$ ☐ $-1 + \cot^2 x$
3) Solve $ 2x + 5 > 7$. ☐ $(-\infty, -6) \cup (1, \infty)$ ☐ $(-\infty, -1] \cup [6, \infty)$ ☐ $(-\infty, -1) \cup (6, \infty)$ ☐ $(-\infty, -6] \cup [1, \infty)$
4) Find the slope of the line through the points $(-1, 3)$ and $(9, -1)$. ☐ $\frac{2}{5}$ ☐ $-\frac{2}{5}$ ☐ $-\frac{5}{2}$ ☐ -1
5) Find the equation of the line through the points $(-1, 3)$ and $(9, -1)$. ☐ $5y + 2x = 13$ ☐ $2y - 5x = 13$ ☐ $y - x = 4$ ☐ $5y + 2x = 11$
6) Find the equation of the line through the point $(-2, 1)$ with slope $-\frac{3}{5}$. ☐ $5y + 3x + 5 = 0$ ☐ $5y + 3x - 7 = 0$ ☐ $5y + 3x - 11 = 0$ ☐ $5y + 3x + 1 = 0$
7) The function $f(x) = 5x^2 - 3x + 1$ is ☐ Constant ☐ Linear ☐ quadratic ☐ Cubic
8) Find the slope and y -intercept of the line $2y + 3x + 5 = 0$. ☐ slope $= -\frac{3}{2}$, y-intercept $= \frac{5}{2}$ ☐ slope $= -\frac{3}{2}$, y-intercept $= -\frac{5}{2}$ ☐ slope $= -\frac{2}{3}$, y-intercept $= \frac{5}{3}$ ☐ slope $= -\frac{2}{3}$, y-intercept $= -\frac{5}{3}$
9) The equation for the line passes through $(4, -1)$ and perpendicular to the line $2x - 3y - 3 = 0$ is ☐ $3x + 2y = 10$ ☐ $2x + 3y = 10$ ☐ $3x + 2y = -2$ ☐ $2x - 3y = 3$

10) Find the domain of $f(x) = \sqrt{x} + \sqrt{x-2}$.			
☐ a $(2, \infty)$	☐ b $(-\infty, 2)$	☐ c $(-\infty, 2]$	☐ d $[2, \infty)$
11) The equation of the Vertical line passes through the point $(-3, -2)$ is			
☐ a $y = -2$	☐ b $x = -2$	☐ c $y = -3$	☐ d $x = -3$
12) Find the intersection point of the lines $x = -4y + 2$ and $x = y + 7$.			
☐ a $(-6, 1)$	☐ b $(-1, 6)$	☐ c $(1, -6)$	☐ d $(6, -1)$
13) $\csc\left(\frac{5\pi}{3}\right) =$			
☐ a $-\frac{\sqrt{3}}{2}$	☐ b $-\frac{2}{\sqrt{3}}$	☐ c $\frac{2}{\sqrt{3}}$	☐ d $\frac{\sqrt{3}}{2}$
14) Find the domain of $f(x) = \frac{x-1}{x^2+2x-15}$.			
☐ a $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq -3\}$	☐ b $\{x \in \mathbb{R} x \neq 3 \text{ and } x \neq 5\}$		
☐ c $\{x \in \mathbb{R} x \neq -3 \text{ and } x \neq 5\}$	☐ d $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq 3\}$		
15) $(-3, 5] \setminus (1, 9) =$			
☐ a $[1, 5]$	☐ b $(-3, 1]$	☐ c $(-3, 1)$	☐ d $[5, 9)$
16) $(-3, 5] \cap (1, 9) =$			
☐ a $(1, 5]$	☐ b $[1, 5]$	☐ c $(-3, 9)$	☐ d $[5, 9)$
17) Find the distance between the numbers -6 and 20 .			
☐ a -14	☐ b -26	☐ c 26	☐ d 14
18) Solve $x^2 + 5x - 24 \geq 0$.			
☐ a $(-\infty, -3] \cup [8, \infty)$	☐ b $(-\infty, -8] \cup [-3, \infty)$		
☐ c $(-\infty, 3] \cup [8, \infty)$	☐ d $(-\infty, -8] \cup [3, \infty)$		
19) $ 2 - \pi =$			
☐ a $\pi - 2$	☐ b $2 - \pi$	☐ c $-2 - \pi$	☐ d $2 + \pi$
20) Solve $ 2x + 5 < 7$.			
☐ a $(-1, 6)$	☐ b $[-1, 6]$	☐ c $(-6, 1)$	☐ d $[-6, 1]$
21) The Range of $f(x) = \sqrt{x-3}$ is			
☐ a $(-\infty, \infty)$	☐ b $[0, \infty)$	☐ c $(0, \infty)$	☐ d $(-\infty, 3]$

22) The midpoint of the segment with endpoints $(\sqrt{5}, -2)$ & $(3\sqrt{5}, -4)$ is			
☐ a $(2\sqrt{5}, 5)$	☐ b $(\sqrt{5}, -3)$	☐ c $(2\sqrt{5}, -3)$	☐ d $(2\sqrt{5}, 3)$
23) If $\tan(x) = \frac{2}{3}$, and $0 < x < \frac{\pi}{2}$, then $\sec(x) =$			
☐ a $\frac{2}{\sqrt{13}}$	☐ b $\frac{\sqrt{13}}{2}$	☐ c $\frac{\sqrt{13}}{3}$	☐ d $\frac{3}{\sqrt{13}}$
24) The whole number is			
☐ a 2	☐ b 0.666...	☐ c $\sqrt{2}$	☐ d -2
25) Find the distance between the points $(-1, 2)$ and $(2, -1)$.			
☐ a $3\sqrt{2}$	☐ b $2\sqrt{3}$	☐ c 9	☐ d 3
26) Solve $ 3x - 5 = 7$.			
☐ a $-\frac{2}{3}$ or 4	☐ b $\frac{2}{3}$ or 4	☐ c -4 or $-\frac{2}{3}$	☐ d -4 or $\frac{2}{3}$
27) $210^\circ =$			
☐ a $\frac{11\pi}{6}$ rad	☐ b $\frac{4\pi}{3}$ rad	☐ c $\frac{5\pi}{3}$ rad	☐ d $\frac{7\pi}{6}$ rad
28) Solve $-14 < 5x - 4 < 11$.			
☐ a $[-2, 3)$	☐ b $(-2, 3)$	☐ c $[-2, 3]$	☐ d $(-2, 3]$
29) Find the domain of $f(x) = \sqrt{3 - x^2}$.			
☐ a $[-\sqrt{3}, \sqrt{3}]$	☐ b $(-\sqrt{3}, \sqrt{3})$		
☐ c $(-\infty, -\sqrt{3}) \cup (\sqrt{3}, \infty)$	☐ d $(-\infty, -\sqrt{3}] \cup [\sqrt{3}, \infty)$		
30) Find the domain of $f(x) = x^2 - 9$.			
☐ a $(-\infty, \infty)$	☐ b $(-3, 3)$	☐ c $[-3, 3]$	☐ d $(-\infty, -3) \cup (-3, \infty)$

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1) Solve $x^2 - 11x + 24 \geq 0$. ☐ $(-\infty, -3] \cup [8, \infty)$ ☐ $(-\infty, -8] \cup [-3, \infty)$ ☐ $(-\infty, 3] \cup [8, \infty)$ ☐ $(-\infty, -8] \cup [3, \infty)$					
2) Solve $ 2x - 5 \geq 7$. ☐ $(-\infty, -6) \cup (1, \infty)$ ☐ $(-\infty, -1] \cup [6, \infty)$ ☐ $(-\infty, -1) \cup (6, \infty)$ ☐ $(-\infty, -6] \cup [1, \infty)$					
3) Find the slope and y - intercept of the line $3y + 2x - 5 = 0$. ☐ slope $= -\frac{3}{2}$, y - intercept $= \frac{5}{2}$ ☐ slope $= -\frac{3}{2}$, y - intercept $= -\frac{5}{2}$ ☐ slope $= -\frac{2}{3}$, y - intercept $= \frac{5}{3}$ ☐ slope $= -\frac{2}{3}$, y - intercept $= -\frac{5}{3}$					
4) $\tan^2 x$ ☐ $-1 - \sec^2 x$ ☐ $1 - \sec^2 x$ ☐ $-1 + \sec^2 x$ ☐ $1 + \sec^2 x$					
5) The equation for the line passes through $(4, -1)$ and perpendicular to the line $2x - 3y - 3 = 0$ is ☐ $3x + 2y = -2$ ☐ $2x + 3y = 10$ ☐ $3x + 2y = 10$ ☐ $2x - 3y = 3$					
6) Solve $ 2x - 5 \leq 7$. ☐ $(-1, 6)$ ☐ $[-1, 6]$ ☐ $(-6, 1)$ ☐ $[-6, 1]$					
7) Find the domain of $f(x) = \sqrt{x} + \sqrt{x - 5}$. ☐ $(-\infty, 5]$ ☐ $[5, \infty)$ ☐ $(-\infty, 5)$ ☐ $(5, \infty)$					
8) The equation of the Horizontal line passes through the point $(-2, -3)$ is ☐ $y = -2$ ☐ $x = -2$ ☐ $y = -3$ ☐ $x = -3$					
9) The Range of $f(x) = \sqrt{x - 2}$ is ☐ $[0, \infty)$ ☐ $(-\infty, \infty)$ ☐ $(0, \infty)$ ☐ $(-\infty, 2]$					

10) Find the intersection point of the lines $x = -4y - 2$ and $x = y - 7$.			
☐ $(-6,1)$	☐ $(-1,6)$	☐ $(1,-6)$	☐ $(6,-1)$
11) If $\tan(x) = \frac{2}{3}$, and $0 < x < \frac{\pi}{2}$, then $\sin(x) =$			
☐ $\frac{2}{\sqrt{13}}$	☐ $\frac{\sqrt{13}}{2}$	☐ $\frac{\sqrt{13}}{3}$	☐ $\frac{3}{\sqrt{13}}$
12) $(-4,6] \setminus (5,8) =$			
☐ $[5,6]$	☐ $(-4,5)$	☐ $(-4,5]$	☐ $[6,8)$
13) Find the domain of $f(x) = 9 - x^2$.			
☐ $(-\infty, -3) \cup (-3, \infty)$	☐ $(-3,3)$	☐ $[-3,3]$	☐ $(-\infty, \infty)$
14) The integer is			
☐ π	☐ $\sqrt{5}$	☐ 0.5	☐ -5
15) The solution of the equation $6x - 2(x - 3) = 22$ is			
☐ $x = -4$	☐ $x = 1$	☐ $x = 4$	☐ $x = -1$
16) Find the distance between the numbers -9 and 13 .			
☐ -4	☐ -22	☐ 4	☐ 22
17) Find the slope of the line through the points $(-1,3)$ and $(5,-1)$.			
☐ $-\frac{2}{3}$	☐ $\frac{3}{2}$	☐ $-\frac{3}{2}$	☐ -1
18) Find the equation of the line through the points $(1,-3)$ and $(5,-1)$.			
☐ $y + x = 2$	☐ $2y - 3x = 7$	☐ $3y - 2x = 7$	☐ $3y + 2x = 7$
19) Find the equation of the line through the point $(-3,1)$ with slope $-\frac{2}{5}$.			
☐ $5y + 2x + 1 = 0$	☐ $5y + 2x - 11 = 0$	☐ $5y + 2x - 8 = 0$	☐ $5y + 2x + 5 = 0$
20) The midpoint of the segment with endpoints $(-\sqrt{3}, -1)$ & $(7\sqrt{3}, 5)$ is			
☐ $(3\sqrt{3}, 6)$	☐ $(3\sqrt{3}, 2)$	☐ $(3\sqrt{3}, -2)$	☐ $(2\sqrt{3}, 3)$
21) $\tan\left(\frac{5\pi}{3}\right) =$			
☐ $-\frac{1}{\sqrt{3}}$	☐ $-\sqrt{3}$	☐ $\sqrt{3}$	☐ $\frac{1}{\sqrt{3}}$

22) $(-4,6] \cap (5,8) =$			
☐ $[5,6]$	☐ $(-4,8)$	☐ $(-4,5]$	☐ $(5,6]$
23) Find the distance between the points $(-1,2)$ and $(2,-1)$.			
☐ 3	☐ $2\sqrt{3}$	☐ 9	☐ $3\sqrt{2}$
24) Solve $-14 < 5x - 4 \leq 11$.			
☐ $[-2,3)$	☐ $(-2,3)$	☐ $[-2,3]$	☐ $(-2,3]$
25) Solve $ 3x + 7 = 5$.			
☐ $-\frac{2}{3}$ or 4	☐ $\frac{2}{3}$ or 4	☐ -4 or $-\frac{2}{3}$	☐ -4 or $\frac{2}{3}$
26) Find the domain of $f(x) = \frac{x-1}{x^2+3x-10}$.			
☐ $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq 2\}$	☐ $\{x \in \mathbb{R} x \neq -2 \text{ and } x \neq 5\}$		
☐ $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq -2\}$	☐ $\{x \in \mathbb{R} x \neq 2 \text{ and } x \neq 5\}$		
27) $\frac{4\pi}{3}$ rad =			
☐ 240^0	☐ 210^0	☐ 300^0	☐ 330^0
28) The function $f(x) = 2x + 3$ is			
☐ Constant	☐ Linear	☐ quadratic	☐ Cubic
29) $ \pi + 1 =$			
☐ $\pi - 1$	☐ $1 - \pi$	☐ $-1 - \pi$	☐ $1 + \pi$
30) Find the domain of $f(x) = \sqrt{2 - x^2}$.			
☐ $[-\sqrt{2}, \sqrt{2}]$	☐ $(-\infty, -\sqrt{2}) \cup (\sqrt{2}, \infty)$	☐ $(-\sqrt{2}, \sqrt{2})$	☐ $(-\infty, -\sqrt{2}] \cup [\sqrt{2}, \infty)$

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1) Find the slope of the line through the points $(3, -1)$ and $(-1, 5)$.					
☐ $-\frac{2}{3}$	☐ $\frac{3}{2}$	☐ $-\frac{3}{2}$	☐ -1		
2) Find the equation of the line through the points $(3, -1)$ and $(-1, 5)$.					
☐ $2y + 3x = 7$	☐ $2y - 3x = 7$	☐ $3y - 3x = 7$	☐ $y + x = 2$		
3) Find the equation of the line through the point $(3, -1)$ with slope $-\frac{2}{5}$.					
☐ $5y + 2x + 11 = 0$	☐ $5y + 2x - 1 = 0$	☐ $5y + 2x + 8 = 0$	☐ $5y + 2x - 5 = 0$		
4) The equation for the line passes through $(4, -1)$ and perpendicular to the line $2x - 3y - 3 = 0$ is					
☐ $3x + 2y = -2$	☐ $3x + 2y = 10$	☐ $2x + 3y = 10$	☐ $2x - 3y = 3$		
5) Find the domain of $f(x) = 4 - x^2$.					
☐ $(-2, 2)$	☐ $[-2, 2]$	☐ $(-\infty, \infty)$	☐ $(-\infty, -2) \cup (-2, \infty)$		
6) Find the domain of $f(x) = \sqrt{x} + \sqrt{x - 9}$.					
☐ $[9, \infty)$	☐ $(-\infty, 9]$	☐ $(-\infty, 9)$	☐ $(9, \infty)$		
7) Find the intersection point of the lines $y = -4x - 2$ and $y = x - 7$.					
☐ $(-6, 1)$	☐ $(-1, 6)$	☐ $(1, -6)$	☐ $(6, -1)$		
8) If $\tan(x) = \frac{2}{3}$, and $0 < x < \frac{\pi}{2}$, then $\csc(x) =$					
☐ $\frac{2}{\sqrt{13}}$	☐ $\frac{\sqrt{13}}{2}$	☐ $\frac{\sqrt{13}}{3}$	☐ $\frac{3}{\sqrt{13}}$		
9) The natural number is					
☐ $\sqrt{7}$	☐ 7	☐ 0.25	☐ -7		

10) $(-3, 2] \setminus (1, 5) =$ ☐ $(1, 2)$ ☐ $(-3, 5)$ ☐ $(-3, 1]$ ☐ $[1, 2)$	
11) Find the slope and y - intercept of the line $3y + 2x + 5 = 0$. ☐ slope $= -\frac{3}{2}$, y - intercept $= \frac{5}{2}$ ☐ slope $= -\frac{3}{2}$, y - intercept $= -\frac{5}{2}$ ☐ slope $= -\frac{2}{3}$, y - intercept $= \frac{5}{3}$ ☐ slope $= -\frac{2}{3}$, y - intercept $= -\frac{5}{3}$	
12) The solution of the equation $6x - 2(x + 3) = -22$ is ☐ $x = -4$ ☐ $x = 1$ ☐ $x = 4$ ☐ $x = -1$	
13) $\cot^2 x$ ☐ $-1 - \csc^2 x$ ☐ $1 + \csc^2 x$ ☐ $1 - \csc^2 x$ ☐ $-1 + \csc^2 x$	
14) $(-3, 2] \cap (1, 5) =$ ☐ $(1, 2]$ ☐ $(-3, 5)$ ☐ $(-3, 1]$ ☐ $[1, 2)$	
15) $ \pi + 2 =$ ☐ $2 - \pi$ ☐ $-2 - \pi$ ☐ $\pi + 2$ ☐ $\pi - 2$	
16) Find the domain of $f(x) = \frac{x-1}{x^2-3x-10}$. ☐ $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq 2\}$ ☐ $\{x \in \mathbb{R} x \neq -2 \text{ and } x \neq 5\}$ ☐ $\{x \in \mathbb{R} x \neq -5 \text{ and } x \neq -2\}$ ☐ $\{x \in \mathbb{R} x \neq 2 \text{ and } x \neq 5\}$	
17) Solve $-14 \leq 5x - 4 < 11$. ☐ $[-2, 3)$ ☐ $(-2, 3)$ ☐ $[-2, 3]$ ☐ $(-2, 3]$	
18) Solve $ 2x + 5 < 7$. ☐ $(-1, 6)$ ☐ $[-1, 6]$ ☐ $(-6, 1)$ ☐ $[-6, 1]$	
19) Find the distance between the points $(-1, 2)$ and $(2, -1)$. ☐ 3 ☐ $2\sqrt{3}$ ☐ $3\sqrt{2}$ ☐ 9	
20) The equation of the Vertical line passes through the point $(-3, -2)$ is ☐ $y = -2$ ☐ $x = -2$ ☐ $y = -3$ ☐ $x = -3$	
21) The midpoint of the segment with endpoints $(\sqrt{2}, 1)$ & $(7\sqrt{2}, -3)$ is ☐ $(4\sqrt{2}, -1)$ ☐ $(\sqrt{2}, 1)$ ☐ $(4\sqrt{2}, -2)$ ☐ $(4\sqrt{2}, 1)$	

22) Find the distance between the numbers -4 and 16 .			
☐ a 20	☐ b -20	☐ c 12	☐ d -12
23) Solve $ 2x - 5 > 7$.			
☐ a $(-\infty, -6) \cup (1, \infty)$	☐ b $(-\infty, -1] \cup [6, \infty)$	☐ c $(-\infty, -1) \cup (6, \infty)$	☐ d $(-\infty, -6] \cup [1, \infty)$
24) Find the domain of $f(x) = \sqrt{x^2 - 2}$.			
☐ a $[-\sqrt{2}, \sqrt{2}]$	☐ b $(-\infty, -\sqrt{2}) \cup (\sqrt{2}, \infty)$	☐ c $(-\sqrt{2}, \sqrt{2})$	☐ d $(-\infty, -\sqrt{2}] \cup [\sqrt{2}, \infty)$
25) Solve $x^2 + 11x + 24 \geq 0$.			
☐ a $(-\infty, -3] \cup [8, \infty)$	☐ b $(-\infty, -8] \cup [-3, \infty)$	☐ c $(-\infty, 3] \cup [8, \infty)$	☐ d $(-\infty, -8] \cup [3, \infty)$
26) The function $f(x) = 2$ is			
☐ a Constant	☐ b Linear	☐ c quadratic	☐ d Cubic
27) $240^\circ =$			
☐ a $\frac{11\pi}{6}$ rad	☐ b $\frac{4\pi}{3}$ rad	☐ c $\frac{5\pi}{3}$ rad	☐ d $\frac{7\pi}{6}$ rad
28) Solve $ 3x - 7 = 5$.			
☐ a $-\frac{2}{3}$ or 4	☐ b $\frac{2}{3}$ or 4	☐ c -4 or $-\frac{2}{3}$	☐ d -4 or $\frac{2}{3}$
29) The Range of $f(x) = \sqrt{x - 1}$ is			
☐ a $(0, \infty)$	☐ b $(-\infty, \infty)$	☐ c $[0, \infty)$	☐ d $(-\infty, 1]$
30) $\cot\left(\frac{5\pi}{3}\right) =$			
☐ a $-\frac{1}{\sqrt{3}}$	☐ b $-\sqrt{3}$	☐ c $\sqrt{3}$	☐ d $\frac{1}{\sqrt{3}}$