

Higher Education Ministry King Abdul-Aziz University Faculty of Science Department of Mathematics				First Midterm Exam Spring, 2013 Math 110 - 30 Marks Time Allowed: 90 Minutes	
Your Name				ID	
A					
1) Find the domain of $f(x) = \frac{x^2 + 1}{x - 7}$. ☐ (7, ∞) ☐ (−∞, ∞) ☐ (−∞, 7) ∪ (7, ∞) ☐ (−∞, −7) ∪ (−7, ∞)					
2) Find the range of $f(x) = x + 1$. ☐ (−1, ∞) ☐ (−∞, ∞) ☐ (0, ∞) ☐ [0, ∞)					
3) Solve $2x + 7 = 1$. ☐ 3 or 4 ☐ −4 or −3 ☐ −4, or 3 ☐ −3 or 4					
4) Solve $-10 \leq 3x - 4 \leq 11$. ☐ [−2, 5] ☐ (−2, 5) ☐ [−2, 5) ☐ (−2, 5]					
5) Solve $x^2 + 2x - 3 \geq 0$. ☐ (−∞, −1] ∪ [3, ∞) ☐ (−∞, −3) ∪ (1, ∞) ☐ (−∞, −1) ∪ (3, ∞) ☐ (−∞, −3) ∪ [1, ∞)					
6) Find the domain of $f(x) = \sqrt{x^2 - 2}$. ☐ [−√2, √2] ☐ (−√2, √2) ☐ (−∞, −√2) ∪ (√2, ∞) ☐ (−∞, −√2] ∪ [√2, ∞)					
7) Solve $2x - 3 \leq 7$. ☐ (−2, 5) ☐ [−2, 5] ☐ (−∞, −2) ∪ (5, ∞) ☐ (−∞, −2] ∪ [5, ∞)					
8) $2 - \pi =$ ☐ $\pi - 2$ ☐ $2 - \pi$ ☐ $-2 - \pi$ ☐ $2 + \pi$					

9) Solve $ 2x - 3 > 7$.			
☐ a	$(-2, 5)$	☐ b	$[-2, 5]$
☐ c	$(-\infty, -2) \cup (5, \infty)$	☐ d	$(-\infty, -2] \cup [5, \infty)$
10) Find the slope of the line through the points $(-3, -4)$ and $(6, -5)$.			
☐ a	-1	☐ b	1
☐ c	$-\frac{1}{9}$	☐ d	$\frac{1}{9}$
11) Find the equation of the line through the points $(4, 3)$ and $(2, 8)$.			
☐ a	$-5x - 2y + 2 = 0$	☐ b	$2y - 5x - 26 = 0$
☐ c	$-5x + 2y + 14 = 0$	☐ d	$5x + 2y - 26 = 0$
12) Find the equation of the line through the point $(-6, 5)$ with slope $\frac{2}{3}$.			
☐ a	$3y - 2x - 3 = 0$	☐ b	$3y - 2x + 3 = 0$
☐ c	$3y - 2x - 27 = 0$	☐ d	$3y - 2x + 27 = 0$
13) If $f(x) = x^3$ and $g(x) = \sqrt[3]{x - 5}$, then $(g \circ f)(x) =$			
☐ a	$\sqrt[3]{5 - x^3}$	☐ b	$x - 5$
☐ c	$\sqrt[3]{x^3 - 5}$	☐ d	$5 - x$
14) Find the y -intercept of the line $3x - 2y - 1 = 0$.			
☐ a	$\frac{1}{3}$	☐ b	$-\frac{1}{3}$
☐ c	$-\frac{1}{2}$	☐ d	$\frac{1}{2}$
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 $f(x) = \sqrt{x} + \sqrt{x - 3}$.			
☐ a	$(3, \infty)$	☐ b	$(-\infty, 3)$
☐ c	$[3, \infty)$	☐ d	$(-\infty, 3]$
18) The function $f(x) = 3x^8 + x^4 + 1$ is			
☐ a	Even	☐ b	Odd
☐ c	Even and odd	☐ d	Neither even nor odd

19) If $f(x) = x^2 - x + 3$ and $g(x) = x$, then $(f - g)(x) =$ ☐ $x + 3$ ☐ $x^2 - 2x + 3$ ☐ $x^2 + 3$ ☐ $(x^2 - x + 3)x$
20) If $f(x) = x^2 + 2x - 3$ and $g(x) = x - 1$, then $\left(\frac{f}{g}\right)(x) =$ ☐ $x + 3$ ☐ $x - 3$ ☐ $x + 1$ ☐ $x - 1$
21) The function $f(x) = 3x^4 + x^2 + 1$ is ☐ power ☐ trigonometric ☐ exponential ☐ polynomial
22) The irrational number is ☐ 3 ☐ $0.\bar{3}$ ☐ -3 ☐ $\sqrt{3}$
23) If $f(x) = x^2 - 1$, then $\frac{f(x+h) - f(x)}{h} =$ ☐ $x + h$ ☐ $2x - h$ ☐ $2x + h^2$ ☐ $2x + h$
24) $(-1, 6] \setminus (3, 9) =$ ☐ $[3, 6]$ ☐ $(-1, 3]$ ☐ $(-1, 3)$ ☐ $[6, 9)$
25) If the graph of the function $f(x) = \sin(x)$ is shifted a distance 2 units upward, then the new graph represented the graph of the function ☐ $\sin(x - 2)$ ☐ $\sin(x + 2)$ ☐ $\sin(x) + 2$ ☐ $\sin(x) - 2$
26) The midpoint of the segment with endpoints $(\sqrt{3}, -1)$ & $(3\sqrt{3}, 4)$ is ☐ $\left(2\sqrt{3}, \frac{5}{2}\right)$ ☐ $\left(\sqrt{3}, \frac{3}{2}\right)$ ☐ $\left(2\sqrt{3}, -\frac{3}{2}\right)$ ☐ $\left(2\sqrt{3}, \frac{3}{2}\right)$
27) Find the distance between the points $(-1, 2)$ and $(2, -1)$ is ☐ $2\sqrt{3}$ ☐ $3\sqrt{2}$ ☐ 9 ☐ 3
28) The range of 3^{x+1} is ☐ $(-\infty, \infty)$ ☐ $(0, \infty)$ ☐ $[0, \infty)$ ☐ $(-\infty, 0)$
29) The function $f(x) = x^2$ is increasing on ☐ $(-\infty, 0)$ ☐ $(0, \infty)$ ☐ $(-\infty, \infty)$ ☐ Nowhere
30) Find the distance between the numbers -2 and 11 . ☐ 9 ☐ 13 ☐ -13 ☐ 11

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					C
1) If $f(x) = x^2 + 1$, then $\frac{f(x+h) - f(x)}{h} =$					
☐ a $x + h$ ☐ b $2x - h$ ☐ c $2x + h$ ☐ d $2x + h^2$					
2) The function $f(x) = x^2$ is decreasing on					
☐ a $(-\infty, 0)$ ☐ b $(0, \infty)$ ☐ c $(-\infty, \infty)$ ☐ d Nowhere					
3) Solve $ 2x - 3 < 7$.					
☐ a $(-2, 5)$ ☐ b $[-2, 5]$ ☐ c $(-\infty, -2) \cup (5, \infty)$ ☐ d $(-\infty, -2] \cup [5, \infty)$					
4) Find the slope of the line through the points $(3, -4)$ and $(-6, -5)$.					
☐ a -1 ☐ b 1 ☐ c $-\frac{1}{9}$ ☐ d $\frac{1}{9}$					
5) Find the equation of the line through the points $(4, 3)$ and $(2, 8)$.					
☐ a $-5x - 2y + 2 = 0$ ☐ b $5x + 2y - 26 = 0$					
☐ c $-5x + 2y + 14 = 0$ ☐ d $2y - 5x - 26 = 0$					
6) Find the equation of the line through the point $(-6, -5)$ with slope $\frac{2}{3}$.					
☐ a $3y - 2x - 3 = 0$ ☐ b $3y - 2x + 3 = 0$ ☐ c $3y - 2x - 27 = 0$ ☐ d $3y - 2x + 27 = 0$					
7) If $f(x) = x^3$ and $g(x) = \sqrt[3]{x - 5}$, then $(f \circ g)(x) =$					
☐ a $\sqrt[3]{5 - x^3}$ ☐ b $x - 5$ ☐ c $\sqrt[3]{x^3 - 5}$ ☐ d $5 - x$					
8) Find the y -intercept of the line $3x - 2y + 1 = 0$.					
☐ a $\frac{1}{3}$ ☐ b $-\frac{1}{3}$ ☐ c $-\frac{1}{2}$ ☐ d $\frac{1}{2}$					
9) The equation for the line passes through $(4, -1)$ and perpendicular to the line $2x - 3y - 3 = 0$ is					
☐ a $3x + 2y = 10$ ☐ b $2x + 3y = 10$ ☐ c $3x + 2y = -2$ ☐ d $2x - 3y = 3$					

10)	Find the domain of $f(x) = \sqrt{x} + \sqrt{x-7}$.			
☐ a	$(7, \infty)$	☐ b	$(-\infty, 7)$	☐ c $(-\infty, 7]$ ☐ d $[7, \infty)$
11)	The function $f(x) = 3x^7 + x^3$ is			
☐ a	Even	☐ b	Odd	☐ c Even and odd ☐ d Neither even nor odd
12)	If $f(x) = x^2 + 2x - 3$ and $g(x) = x + 3$, then $\left(\frac{f}{g}\right)(x) =$			
☐ a	$x + 3$	☐ b	$x - 3$	☐ c $x + 1$ ☐ d $x - 1$
13)	Find the range of $f(x) = x + 2 $.			
☐ a	$(-2, \infty)$	☐ b	$[0, \infty)$	☐ c $(0, \infty)$ ☐ d $(-\infty, \infty)$
14)	Find the domain of $f(x) = \frac{x^2 + 1}{x + 5}$			
☐ a	$(-\infty, -5) \cup (-5, \infty)$	☐ b	$(-\infty, 5) \cup (5, \infty)$	☐ c $(-\infty, \infty)$ ☐ d $(5, \infty)$
15)	$(-2, 6] \setminus (3, 9) =$			
☐ a	$[3, 6]$	☐ b	$(-2, 3]$	☐ c $(-2, 3)$ ☐ d $[6, 9)$
16)	If the graph of the function $f(x) = \sin(x)$ is shifted a distance 2 units downward, then the new graph represented the graph of the function			
☐ a	$\sin(x - 2)$	☐ b	$\sin(x + 2)$	☐ c $\sin(x) + 2$ ☐ d $\sin(x) - 2$
17)	Find the distance between the numbers -7 and 11 .			
☐ a	4	☐ b	-18	☐ c 18 ☐ d 11
18)	Solve $x^2 + 2x - 3 > 0$.			
☐ a	$(-\infty, -1] \cup [3, \infty)$	☐ b	$(-\infty, -3) \cup (1, \infty)$	
☐ c	$(-\infty, -1) \cup (3, \infty)$	☐ d	$(-\infty, -3] \cup [1, \infty)$	
19)	$ 2 - \pi =$			
☐ a	$2 - \pi$	☐ b	$\pi - 2$	☐ c $-2 - \pi$ ☐ d $2 + \pi$
20)	Solve $ 2x - 3 \geq 7$.			
☐ a	$(-2, 5)$	☐ b	$[-2, 5]$	
☐ c	$(-\infty, -2) \cup (5, \infty)$	☐ d	$(-\infty, -2] \cup [5, \infty)$	
21)	If $f(x) = x^2 + x + 3$ and $g(x) = x$, then $(f - g)(x) =$			
☐ a	$x + 3$	☐ b	$x^2 + 2x + 3$	☐ c $(x^2 + x + 3)x$ ☐ d $x^2 + 3$

22)	The midpoint of the segment with endpoints $(\sqrt{3}, 1)$ & $(3\sqrt{3}, -4)$ is			
☐ A	$\left(2\sqrt{3}, \frac{5}{2}\right)$	☐ B	$\left(\sqrt{3}, \frac{3}{2}\right)$	☐ C $\left(2\sqrt{3}, -\frac{3}{2}\right)$ ☐ D $\left(2\sqrt{3}, \frac{3}{2}\right)$
23)	The function $f(x) = 3x^4 + x^2 + 1$ is			
☐ a	polynomial	☐ b	trigonometric	☐ c exponential ☐ d power
24)	The irrational number is			
☐ a	2	☐ b	$0.\bar{2}$	☐ 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 $ 2x - 7 = 1$.			
☐ a	3 or 4	☐ b	-4 or -3	☐ c -4, or 3 ☐ d -3 or 4
27)	The range of 2^{x+3} is			
☐ a	$(-\infty, \infty)$	☐ b	$(-\infty, 0)$	☐ c $[0, \infty)$ ☐ d $(0, \infty)$
28)	Solve $-10 \leq 3x - 4 < 11$.			
☐ a	$[-2, 5]$	☐ b	$(-2, 5)$	☐ c $[-2, 5)$ ☐ d $(-2, 5]$
29)	Find the domain of $f(x) = \sqrt{2 - x^2}$.			
☐ a	$[-\sqrt{2}, \sqrt{2}]$	☐ b	$(-\sqrt{2}, \sqrt{2})$	
☐ c	$(-\infty, -\sqrt{2}) \cup (\sqrt{2}, \infty)$	☐ d	$(-\infty, -\sqrt{2}] \cup [\sqrt{2}, \infty)$	
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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Your Name		ID		B	
1) Solve $x^2 - 2x - 3 \geq 0$. ☐ $(-\infty, -1] \cup [3, \infty)$ ☐ $(-\infty, -3) \cup (1, \infty)$ ☐ $(-\infty, -1) \cup (3, \infty)$ ☐ $(-\infty, -3] \cup [1, \infty)$					
2) Solve $ 2x - 5 \leq 7$. ☐ $(-\infty, -1) \cup (6, \infty)$ ☐ $[-1, 6]$ ☐ $(-\infty, -1] \cup [6, \infty)$ ☐ $(-1, 6)$					
3) Find the y -intercept of the line $2x - 3y + 1 = 0$. ☐ $\frac{1}{3}$ ☐ $-\frac{1}{3}$ ☐ $-\frac{1}{2}$ ☐ $\frac{1}{2}$					
4) The function $f(x) = x^3$ is increasing on ☐ $(-\infty, 0)$ ☐ $(0, \infty)$ ☐ $(-\infty, \infty)$ ☐ Nowhere					
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 > 7$. ☐ $(-\infty, -1) \cup (6, \infty)$ ☐ $[-1, 6]$ ☐ $(-\infty, -1] \cup [6, \infty)$ ☐ $(-1, 6)$					
7) Find the domain of $f(x) = \sqrt{x} + \sqrt{x - 2}$. ☐ $(-\infty, 2]$ ☐ $[2, \infty)$ ☐ $(-\infty, 2)$ ☐ $(2, \infty)$					
8) The function $f(x) = 2x^5 + 7$ is ☐ Even ☐ Odd ☐ Even and odd ☐ Neither even nor odd					

9) If $f(x) = x^2 + x + 3$ and $g(x) = x^2$, then $(f - g)(x) =$ ☐ $x + 3$ ☐ $x^2 + 3$ ☐ $(x^2 + x + 3)x$ ☐ $2x^2 + x + 3$
10) If $f(x) = x^2 - 2x - 3$ and $g(x) = x + 1$, then $\left(\frac{f}{g}\right)(x) =$ ☐ $x + 3$ ☐ $x - 3$ ☐ $x + 1$ ☐ $x - 1$
11) The function $f(x) = 3x^4 + x^2 + 1$ is ☐ trigonometric ☐ polynomial ☐ exponential ☐ power
12) $(-2, 6] \setminus (1, 8) =$ ☐ $[1, 6]$ ☐ $(-2, 1)$ ☐ $(-2, 1]$ ☐ $[6, 8)$
13) Find the equation of the line through the point $(6, 5)$ with slope $\frac{2}{3}$. ☐ $3y - 2x - 3 = 0$ ☐ $3y - 2x + 3 = 0$ ☐ $3y - 2x - 27 = 0$ ☐ $3y - 2x + 27 = 0$
14) Find the domain of $f(x) = 9 - x^2$. ☐ $(-\infty, -3) \cup (-3, \infty)$ ☐ $(-3, 3)$ ☐ $[-3, 3]$ ☐ $(-\infty, \infty)$
15) The irrational number is ☐ 5 ☐ $\sqrt{5}$ ☐ $0.\bar{5}$ ☐ -5
16) If $f(x) = x^2 + 2$, then $\frac{f(x+h) - f(x)}{h} =$ ☐ $x + h$ ☐ $2x + h$ ☐ $2x - h$ ☐ $2x + h^2$
17) Find the distance between the numbers -5 and 11. ☐ 6 ☐ -16 ☐ 11 ☐ 16
18) Find the equation of the line through the points $(2, 8)$ and $(4, 3)$. ☐ $5x + 2y - 26 = 0$ ☐ $-5x - 2y + 2 = 0$ ☐ $-5x + 2y + 14 = 0$ ☐ $2y - 5x - 26 = 0$
19) The midpoint of the segment with endpoints $(-\sqrt{3}, -1)$ & $(3\sqrt{3}, 4)$ is ☐ $\left(2\sqrt{3}, \frac{5}{2}\right)$ ☐ $\left(\sqrt{3}, \frac{3}{2}\right)$ ☐ $\left(2\sqrt{3}, -\frac{3}{2}\right)$ ☐ $\left(2\sqrt{3}, \frac{3}{2}\right)$

20) Find the slope of the line through the points $(-3,4)$ and $(6,-5)$.			
☐ -1	☐ 1	☐ $-\frac{1}{9}$	☐ $\frac{1}{9}$
21) Find the range of $f(x) = x - 2 $.			
☐ $[0,\infty)$	☐ $(2,\infty)$	☐ $(0,\infty)$	☐ $(-\infty,\infty)$
22) If the graph of the function $f(x) = \sin(x)$ is shifted a distance 2 units to the right, then the new graph represented the graph of the function			
☐ $\sin(x - 2)$	☐ $\sin(x + 2)$		
☐ $\sin(x) + 2$	☐ $\sin(x) - 2$		
23) Find the distance between the points $(-1,2)$ and $(2,-1)$.			
☐ 3	☐ $2\sqrt{3}$	☐ 9	☐ $3\sqrt{2}$
24) Solve $-10 < 3x - 4 \leq 11$.			
☐ $[-2,5]$	☐ $(-2,5)$	☐ $[-2,5)$	☐ $(-2,5]$
25) Solve $ 2x + 9 = 1$.			
☐ $-4, \text{ or } 5$	☐ $-5 \text{ or } 4$	☐ $4 \text{ or } 5$	☐ $-5 \text{ or } -4$
26) Find the domain of $f(x) = \frac{x^2 - 3}{x + 9}$.			
☐ $(9,\infty)$	☐ $(-\infty,\infty)$	☐ $(-\infty,9) \cup (9,\infty)$	☐ $(-\infty,-9) \cup (-9,\infty)$
27) The range of 5^{x+3} is			
☐ $(-\infty,\infty)$	☐ $[0,\infty)$	☐ $(0,\infty)$	☐ $(-\infty,0)$
28) If $f(x) = x^3$ and $g(x) = \sqrt[3]{5-x}$, then $(f \circ g)(x) =$			
☐ $\sqrt[3]{5-x^3}$	☐ $x - 5$	☐ $\sqrt[3]{x^3 - 5}$	☐ $5 - x$
29) $ \pi + 2 =$			
☐ $2 - \pi$	☐ $-2 - \pi$	☐ $\pi - 2$	☐ $2 + \pi$
30) Find the domain of $f(x) = \sqrt{3 - x^2}$.			
☐ $[-\sqrt{3}, \sqrt{3}]$	☐ $(-\infty, -\sqrt{3}) \cup (\sqrt{3}, \infty)$	☐ $(-\sqrt{3}, \sqrt{3})$	☐ $(-\infty, -\sqrt{3}] \cup [\sqrt{3}, \infty)$

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Your Name		ID		D	
1) Find the slope of the line through the points (3,4) and (-6,-5).					
☐ a) -1 ☐ b) 1 ☐ c) $-\frac{1}{9}$ ☐ d) $\frac{1}{9}$					
2) Find the equation of the line through the points (2,8) and (4,3).					
☐ a) $-5x + 2y + 14 = 0$ ☐ b) $-5x - 2y + 2 = 0$ ☐ c) $5x + 2y - 26 = 0$ ☐ d) $2y - 5x - 26 = 0$					
3) The equation for the line passes through (4,-1) and perpendicular to the line $2x - 3y - 3 = 0$ is					
☐ a) $3x + 2y = -2$ ☐ b) $3x + 2y = 10$ ☐ c) $2x + 3y = 10$ ☐ d) $2x - 3y = 3$					
4) Find the domain of $f(x) = 4 - x^2$.					
☐ a) $(-2, 2)$ ☐ b) $[-2, 2]$ ☐ c) $(-\infty, \infty)$ ☐ d) $(-\infty, -2) \cup (-2, \infty)$					
5) Find the domain of $f(x) = \sqrt{x} + \sqrt{x-5}$.					
☐ a) $[5, \infty)$ ☐ b) $(-\infty, 5]$ ☐ c) $(-\infty, 5)$ ☐ d) $(5, \infty)$					
6) If $f(x) = x^2 - 2x - 3$ and $g(x) = x - 3$, then $\left(\frac{f}{g}\right)(x) =$					
☐ a) $x + 3$ ☐ b) $x - 3$ ☐ c) $x + 1$ ☐ d) $x - 1$					
7) The function $f(x) = 3x^4 + x^2 + 1$ is					
☐ a) trigonometric ☐ b) exponential ☐ c) polynomial ☐ d) power					
8) The irrational number is					
☐ a) $\sqrt{7}$ ☐ b) 7 ☐ c) $0.\bar{7}$ ☐ d) -7					
9) $(-3, 6] \setminus (1, 8) =$					
☐ a) $[1, 6]$ ☐ b) $(-3, 1)$ ☐ c) $(-3, 1]$ ☐ d) $[6, 8)$					

10) Find the y – intercept of the line $2x - 3y - 1 = 0$.
☐ $\frac{1}{3}$ ☐ $-\frac{1}{3}$ ☐ $-\frac{1}{2}$ ☐ $\frac{1}{2}$
11) If $f(x) = x^2 - 2$, then $\frac{f(x+h) - f(x)}{h} =$
☐ $2x + h$ ☐ $x + h$ ☐ $2x - h$ ☐ $2x + h^2$
12) The function $f(x) = x^3$ is decreasing on
☐ $(-\infty, 0)$ ☐ $(0, \infty)$ ☐ $(-\infty, \infty)$ ☐ Nowhere
13) Find the equation of the line through the point $(6, -5)$ with slope $\frac{2}{3}$.
☐ $3y - 2x - 3 = 0$ ☐ $3y - 2x + 3 = 0$ ☐ $3y - 2x - 27 = 0$ ☐ $3y - 2x + 27 = 0$
14) If the graph of the function $f(x) = \sin(x)$ is shifted a distance 2 units to the left, then the new graph represented the graph of the function
☐ $\sin(x - 2)$ ☐ $\sin(x + 2)$ ☐ $\sin(x) + 2$ ☐ $\sin(x) - 2$
15) $ \pi + 2 =$
☐ $2 - \pi$ ☐ $-2 - \pi$ ☐ $\pi + 2$ ☐ $\pi - 2$
16) Find the domain of $f(x) = \frac{x^2 - 1}{x - 3}$.
☐ $(3, \infty)$ ☐ $(-\infty, 3) \cup (3, \infty)$ ☐ $(-\infty, \infty)$ ☐ $(-\infty, -3) \cup (-3, \infty)$
17) Solve $-10 < 3x - 4 < 11$.
☐ $[-2, 5]$ ☐ $(-2, 5)$ ☐ $[-2, 5)$ ☐ $(-2, 5]$
18) Solve $ 2x - 5 \geq 7$.
☐ $(-\infty, -1) \cup (6, \infty)$ ☐ $[-1, 6]$ ☐ $(-\infty, -1] \cup [6, \infty)$ ☐ $(-1, 6)$
19) Find the distance between the points $(-1, 2)$ and $(2, -1)$.
☐ 3 ☐ $2\sqrt{3}$ ☐ $3\sqrt{2}$ ☐ 9
20) The function $f(x) = 2x^3 + x^2 + 3$ is
☐ Even ☐ Odd ☐ Neither even nor odd ☐ Even and odd

21)	The midpoint of the segment with endpoints $(\sqrt{3}, 1)$ & $(3\sqrt{3}, 4)$ is			
☐ a	$\left(2\sqrt{3}, \frac{5}{2}\right)$	☐ b	$\left(\sqrt{3}, \frac{3}{2}\right)$	☐ c $\left(2\sqrt{3}, -\frac{3}{2}\right)$ ☐ d $\left(2\sqrt{3}, \frac{3}{2}\right)$
22)	Find the distance between the numbers -4 and 11 .			
☐ a	15	☐ b	-15	☐ c 11 ☐ d 8
23)	Solve $ 2x - 5 < 7$.			
☐ a	$(-\infty, -1) \cup (6, \infty)$	☐ b	$[-1, 6]$	
☐ c	$(-\infty, -1] \cup [6, \infty)$	☐ d	$(-1, 6)$	
24)	Find the domain of $f(x) = \sqrt{x^2 - 3}$.			
☐ a	$[-\sqrt{3}, \sqrt{3}]$	☐ b	$(-\infty, -\sqrt{3}) \cup (\sqrt{3}, \infty)$	☐ c $(-\sqrt{3}, \sqrt{3})$ ☐ d $(-\infty, -\sqrt{3}] \cup [\sqrt{3}, \infty)$
25)	Solve $x^2 - 2x - 3 > 0$.			
☐ a	$(-\infty, -1] \cup [3, \infty)$	☐ b	$(-\infty, -3) \cup (1, \infty)$	
☐ c	$(-\infty, -1) \cup (3, \infty)$	☐ d	$(-\infty, -3] \cup [1, \infty)$	
26)	If $f(x) = x^3$ and $g(x) = \sqrt[3]{5-x}$, then $(g \circ f)(x) =$			
☐ a	$\sqrt[3]{5-x^3}$	☐ b	$x - 5$	☐ c $\sqrt[3]{x^3 - 5}$ ☐ d $5 - x$
27)	The range of 7^{x+3} is			
☐ a	$(0, \infty)$	☐ b	$(-\infty, 0)$	☐ c $[0, \infty)$ ☐ d $(-\infty, \infty)$
28)	Solve $ 2x - 9 = 1$.			
☐ a	-4 , or 5	☐ b	-5 or 4	☐ c 4 or 5 ☐ d -5 or -4
29)	If $f(x) = x^2 - x - 3$ and $g(x) = x$, then $(f - g)(x) =$			
☐ a	$x^2 - 3$	☐ b	$x - 3$	☐ c $(x^2 - x - 3)x$ ☐ d $x^2 - 2x - 3$
30)	Find the range of $f(x) = x - 1 $.			
☐ a	$(0, \infty)$	☐ b	$(1, \infty)$	☐ c $[0, \infty)$ ☐ d $(-\infty, \infty)$

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	A	B	C	D
1	c	a	c	b
2	d	b	a	c
3	b	a	a	b
4	a	c	d	c
5	d	c	b	a
6	d	a	b	c
7	b	b	b	c
8	a	d	d	a
9	c	a	a	c
10	c	b	d	b
11	d	b	b	a
12	c	c	d	d
13	c	a	b	d
14	c	d	a	b
15	d	b	b	c
16	b	b	d	b
17	c	d	c	b
18	a	a	b	c
19	b	b	b	c
20	a	a	d	c

21	d	a	d	a
22	d	a	c	a
23	d	d	a	d
24	b	d	c	d
25	c	d	b	c
26	d	d	a	a
27	b	c	d	a
28	b	d	c	c
29	b	d	a	d
30	b	a	a	c