



Name: ID:

A

Choose the correct answer of the following questions:

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|-----|--|--------------------------------------|--------------------|----------------------|--------------------------------------|
| (1) | The solution set of the inequality $-3x + 5 < -13$ is | (a) $(-\infty, 6]$ | (b) $(-\infty, 6)$ | (c) $[6, \infty)$ | (d) $(6, \infty)$ |
| (2) | The solution set of the inequality $ x - 3 \geq 4$ is | (a) $(-\infty, -1] \cup [7, \infty)$ | (b) $[-1, 7]$ | (c) $(-1, 7)$ | (d) $(-\infty, -1] \cup (7, \infty)$ |
| (3) | $ 2 - \pi =$ | (a) $2 - \pi$ | (b) $-2 - \pi$ | (c) $\pi - 2$ | (d) $2 + \pi$ |
| (4) | The solution set of the inequality $ x + 1 < 3$ is | (a) $(-\infty, -4)$ | (b) $[-4, 2]$ | (c) $(2, \infty)$ | (d) $(-4, 2)$ |
| (5) | The equation of the line passes through the point $(-3, 0)$ with slope 5 is | (a) $y = 5x - 15$ | (b) $y = 5x + 3$ | (c) $y = 5x + 15$ | (d) $y = 5x - 3$ |
| (6) | The equation of the line passing through $(1, 0)$ and parallel to the line $2x - 3y = 1$ is | (a) $2x - 3y = 2$ | (b) $2x + 3y = 2$ | (c) $-x + y = 5$ | (d) $x + y = 5$ |
| (7) | The equation of the line passing through $(1, 4)$ and perpendicular to the line $2x - 6y + 5 = 0$ is | (a) $x - y = 5$ | (b) $x + y = -5$ | (c) $x + y = 3$ | (d) $3x + y = 7$ |
| (8) | The equation of the line passes through $(2, 3)$ and $(1, 4)$ is | (a) $x + y = 5$ | (b) $x + y = -5$ | (c) $-x + y = 5$ | (d) $x - y = 5$ |
| (9) | The slope m and y -intercept b of the line $4x + 2y + 8 = 0$ are | (a) $m = -3, b = -1$ | (b) $m = 3, b = 1$ | (c) $m = -2, b = -4$ | (d) $m = 2, b = 4$ |

(10)	The distance between the points (5,0) and (1, -3) is			
	(a) 5	(b) 6	(c) 7	(d) 8
(11)	$300^\circ =$			
	(a) π rad	(b) $\frac{5\pi}{3}$ rad	(c) $\frac{3\pi}{5}$ rad	(d) $\frac{7\pi}{6}$ rad
(12)	If $\sin \theta = \frac{3}{5}, 0 \leq \theta \leq \frac{\pi}{2}$ then $\cot \theta =$			
	(a) $\frac{3}{4}$	(b) $-\frac{3}{4}$	(c) $\frac{4}{3}$	(d) $-\frac{4}{3}$
(13)	If a circle has radius $\frac{2\pi}{3}$ cm, the angle is subtended by an arc of 5 cm is			
	(a) 15π rad	(b) $\frac{15}{2\pi}$ rad	(c) $\frac{10\pi}{3}$ rad	(d) 15 rad
(14)	The domain of the function $f(x) = \frac{2x}{x(x-1)}$ is			
	(a) \mathbb{R}	(b) $\mathbb{R} - \{1\}$	(c) $\mathbb{R} - \{0,1\}$	(d) $\mathbb{R} - \{0\}$
(15)	The function $\left(\frac{2}{3}\right)^x$ is classified as			
	(a) Polynomial	(b) Exponential	(c) Power	(d) Rational
(16)	The range of the function $y = \log x$ is			
	(a) $[0, \infty)$	(b) $(-\infty, \infty)$	(c) $(1, \infty)$	(d) $(0, \infty)$
(17)	The graph of $y = \cos x$ is shifted up 6 units and to the right 2 units, the equation for the new graph is			
	(a) $y = \cos(x-2) + 6$	(b) $y = \cos(x+2) + 6$	(c) $y = \cos(x-2) - 6$	(d) $y = \cos(x+2) - 6$
(18)	If $f(x) = x - 1$ and $g(x) = x^3 - 4x$, then the domain of $\left(\frac{g}{f}\right)(x) =$			
	(a) \mathbb{R}	(b) $\mathbb{R} - \{1\}$	(c) $\mathbb{R} - \{-2, 2\}$	(d) $\mathbb{R} - \{-1\}$
(19)	If $f(x) = \sqrt{x-3}$ and $g(x) = x^2$, then $(f \circ g)(x) =$			
	(a) $\sqrt{x^2-3}$	(b) $x(x-2)$	(c) x^2	(d) $\sqrt{x-3}$

(20)	If the graph of the function $y = \sqrt{x}$ is reflected about the y -axis, the equation for the new graph is		
	(a) $y = \sqrt{x} - 1$	(b) $y = -\sqrt{x}$	(c) $y = \sqrt{x} + 1$
			(d) $y = \sqrt{-x}$

(21)	The solution of the equation $e^{2x+3} - 7 = 0$ is		
	(a) $x = \frac{\ln 7 + 3}{2}$	(b) $x = \frac{\ln 7 - 3}{2}$	(c) $x = \ln 7 - 3$
			(d) $x = \frac{\ln 7 - 2}{3}$

(22)	The solution of the equation $\ln(6 - 3x) = 1$ is		
	(a) $x = 2$	(b) $x = 3 - \frac{1}{2}e$	(c) $x = 2 + \frac{1}{3}e$
			(d) $x = 2 - \frac{1}{3}e$

(23)	$e^{\ln 3} =$		
	(a) 3	(b) 2	(c) 4
			(d) 9

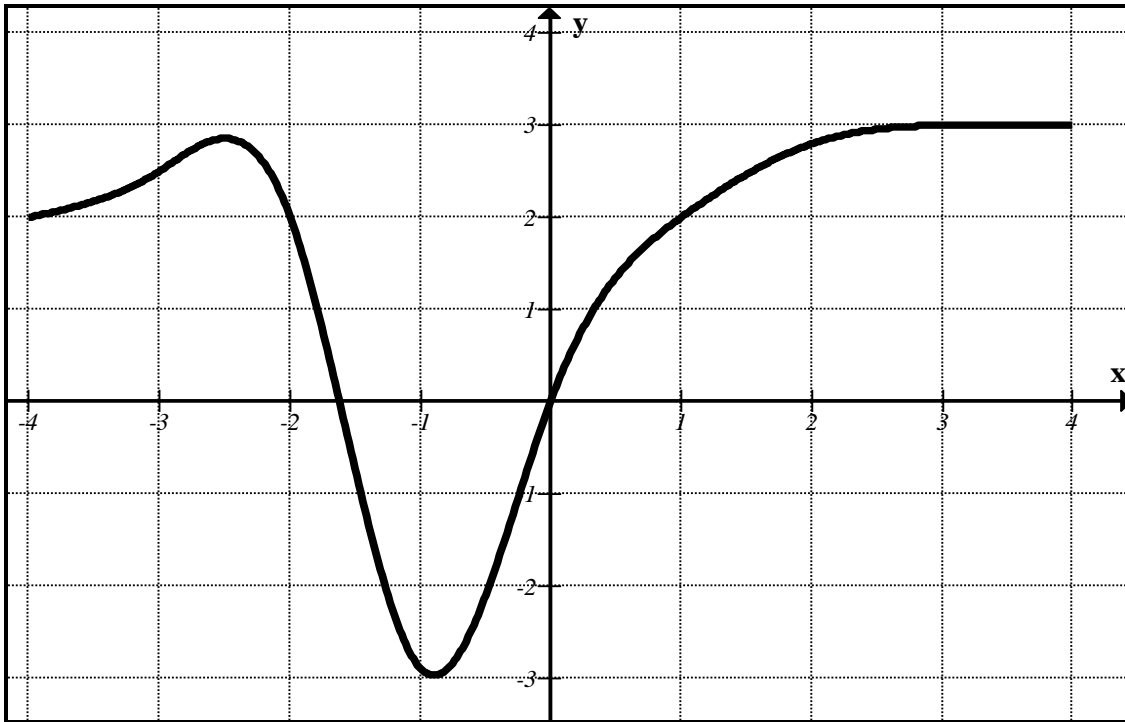
(24)	$\log_2 6 - \log_2 15 + \log_2 20 =$		
	(a) 1	(b) 4	(c) 2
			(d) 3

(25)	The inverse of the function of $f(x) = 3 - \frac{x}{2}$ is		
	(a) $f^{-1}(x) = \frac{2}{6-x}$	(b) $f^{-1}(x) = 3 - 2x$	(c) $f^{-1}(x) = 6 - 2x$
			(d) $f^{-1}(x) = 2x - 6$

(26)	The function $h(x) = x^5$ is one-to-one		
	(a) True	(b) False	

(27)	The function $f(x) = 1 + 3x^2 - x^4$ is		
	(a) Even	(b) Odd	(c) Neither even nor odd
			(d) Even and odd

Use the figure below to solve 28, 29 and 30:



(28)	The domain of the function is			
	(a) $[-1, 3]$	(b) $[-3, 3]$	(c) $(0, 3]$	(d) $[-4, 4]$

(29)	The range of the function is			
	(a) $[-1, 3]$	(b) $[-3, 3]$	(c) $(0, 3]$	(d) $[-4, 4]$

(30)	$f(-2) =$			
	(a) 1	(b) -1	(c) 2	(d) 3