Trig Review Quiz 24 (50 questions)

Name _____

_____1. Simplify $(x - 1)(x^2 + 2x + 3)$

A. $x^3 + x^2 + x - 3$ B. $x^3 + 2x^2 + x - 3$

C. $x^3 + x^2 - x - 3$ D. $x^3 + x^2 + 2x - 3$

_____2. Simplify $\sqrt{20a^3y^{10}}$

A. $2ay^5\sqrt{5ay}$ B. $5ay^5\sqrt{2a}$ C. $2ay^5\sqrt{5a}$ D. $5ay^5\sqrt{2ay}$

_____3. Simplify $(a^4n^3x^6)(a^2n^3x^6)$

A. $a^8n^6x^{12}$ B. $a^6n^9x^{12}$ C. $a^6n^6x^{36}$ D. $a^6n^6x^{12}$

_____4. Simplify $\sqrt{-80a^2}$

A. $4a\sqrt{5}$ B. $2ai\sqrt{10}$ C. $4ai\sqrt{5}$ D. None of the above

_____5. Solve for n: $4(2n + 5) + 2(3n + 5) = 10n + 22$

A. n = -4 B. $n = \frac{1}{2}$ C. n = -2 D. n = 2

_____6. Simplify $\frac{9 \pm \sqrt{18}}{3}$

A. $3 \pm i\sqrt{3}$ B. $3 \pm i\sqrt{2}$ C. $3 \pm \sqrt{3}$ D. $3 \pm \sqrt{2}$

_____7. Solve for n: $4(2n - 3) + 2(2n - 1) = 10$

A. n = -4 B. $n = \frac{1}{2}$ C. n = -2 D. n = 2

_____8. Simplify $\frac{a^4b^{10}c^5}{ab^8c^7}$

A. $\frac{a^3b^2}{c}$ B. $\frac{ab^2}{c^2}$ C. $\frac{a^3}{b^2c^2}$ D. None of the above

_____9. Simplify $\frac{n^2+4n+3}{n^2+7n+12}$

A. $\frac{n+3}{n+4}$ B. $\frac{1}{n+4}$ C. $\frac{1}{3n+4}$ D. $\frac{n+1}{n+4}$

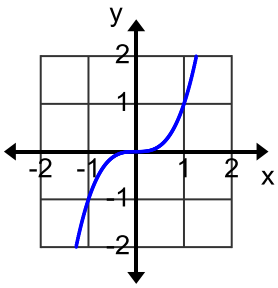
_____10. Perform the following division $n-2\overline{)n^2+3n-1}$

A. $n+5+\frac{-11}{n-2}$ B. $n+5+\frac{9}{n-2}$ C. $n+1+\frac{1}{n-2}$ D. $n+1+\frac{-3}{n-2}$

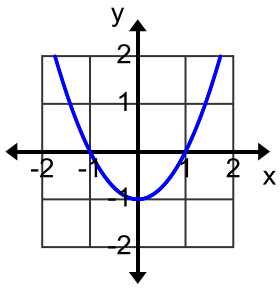
_____11. Simplify $\left(\frac{n^2 y^{-2}}{a^{-4}}\right)^2$

A. $\frac{n^4 y^4}{a^{16}}$ B. $\frac{n^4 y^4}{a^8}$ C. $\frac{n^4 a^{16}}{y^4}$ D. $\frac{n^4 a^8}{y^4}$

_____12. Which graph below is not a function?



A.



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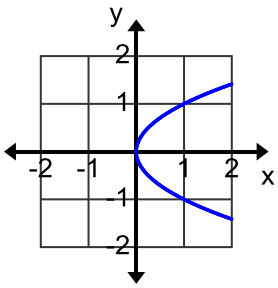


C.

_____13. If f(x) = 3x – 10 and g(x) = 2x + 1, what is f(g(x))?

A. 6x – 19 B. 6x – 13 C. 6x + 13 D. 6x – 7

_____14. What is the domain of f(x) = $\sqrt{x-3}$?

A. $x \neq 3$ B. $x > 3$ C. $x \geq 3$ D. None of the above

_____15. What is the domain of f(x) = $\frac{x^3}{x-3}$?

A. $x \neq 3$ B. $x > 3$ C. $x \geq 3$ D. None of the above

_____16. What is the domain of f(x) = $x^3 - 8$?

A. $x \neq 2$ B. $\mathbb{R}$ C. $x \geq 2$ D. $x > 2$

_____17. $\sum_{n=-2}^{1} 2n-1$?

A. -10 B. -9 C. -8 D. -6

_____18. What is the slope from (1, 4) to (3, 10)?

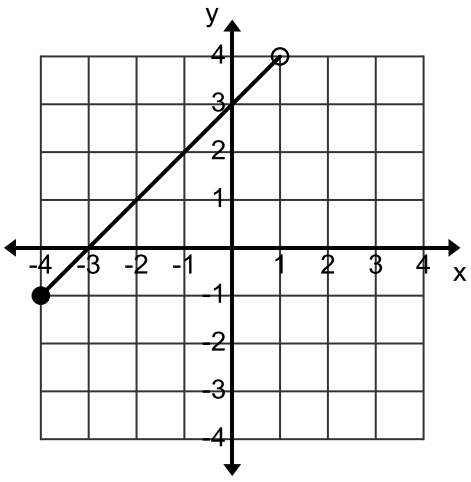
A. 6 B. 2 C. 3 D. -2

_____19. What is the distance from (-3,-2) to (1, -6)?

A. $4\sqrt{2}$ B. $3\sqrt{2}$ C. $2\sqrt{3}$ D. $2\sqrt{2}$

_____20. Which equation below is not in standard form?

A. 3x – y = 5 B. 4x + y = -3 C. -2x + y = 9 D. x – y = -1



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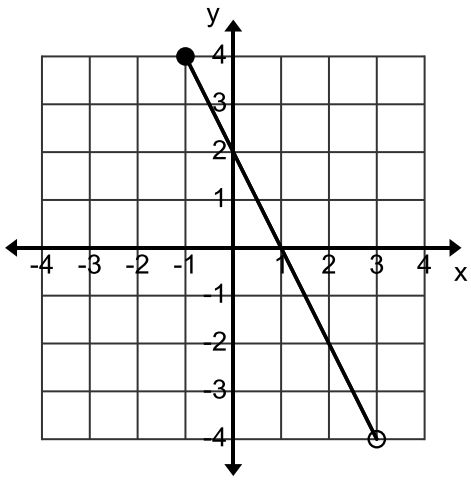


II

_____21. What is the **domain** of the graph I above?

A. $\mathbb{R}: -1 < x \leq 4$ B. $\mathbb{R}: -1 \leq x < 4$ C. $\mathbb{R}: -4 < x \leq 1$ D. $\mathbb{R}: -4 \leq x < 1$

_____22. What is the **range** of the graph II above?

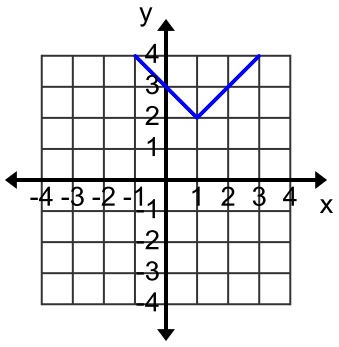
A. $\mathbb{R}: -1 < y \leq 3$ B. $\mathbb{R}: -1 \leq y < 3$ C. $\mathbb{R}: -4 < y \leq 4$ D. $\mathbb{R}: -4 \leq y < 4$

_____23. What is the equation of the line in standard form that is parallel to $y = 8x - 5$ and passes through the point (1, 20).

A. $8x + y = 12$ B. $8x - y = -12$ C. $12x - y = -8$ D. $8x - 12 = y$

_____24. If A is a 4 x 5 matrix, B a 4 x 3 matrix, and C a 3 x 5 matrix, what matrices could be multiplied?

A. A and B B. A and C C. B and C D. All of them could be



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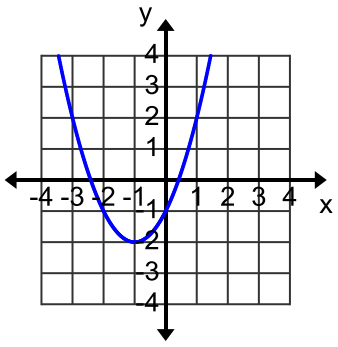

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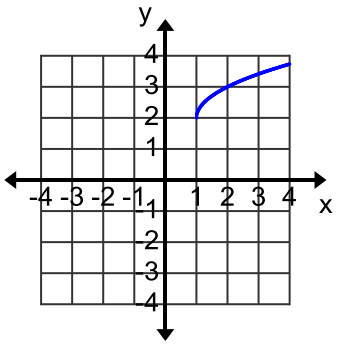

3.

NO CALCULATOR ALLOWED on 86 – 97!

_____25. What equation is graphed in figure 1 above.

A. $y = |x-1| - 2$ B. $y = |x+1| + 2$ C. $y = |x-1| + 2$ D. $y = |x-1|^2 + 2$

_____26. What equation is graphed in figure 2 above.

A. $y = (x+1)^2 - 2$ B. $y = (x-1)^2 - 2$ C. $y = (x+1)^2 + 2$ D. $y = (x-1)^2 + 2$

_____ 27. What equation is graphed in figure 3 above.

A. $y = \pm\sqrt{x+1} + 2$ B. $y = \sqrt{x+1} + 2$ C. $y = \pm\sqrt{x-1} - 2$ D. $y = \sqrt{x-1} + 2$

_____28. What is the horizontal asymptote of $y = \dfrac{4x^3+5}{4x^3+1}$?

A. y = 0 B. $y = \dfrac{1}{2}$ C. y = 1 D. No horizontal asymptote

_____29. What is the horizontal asymptote of $y = \dfrac{2x^3+5}{3x^2+1}$?

A. y = 0 B. $y = \dfrac{2}{3}$ C. y = 1 D. No horizontal asymptote

_____30. What is the vertical asymptote of $y = \dfrac{2x^3+5}{x+4}$?

A. x = 4 B. x= -4 C. x = 2 D. No vertical asymptote

_____31. What is the vertical asymptote of $y = \dfrac{2x^3+5}{x^2-4}$?

A. x = 2 B. x= 4 C. x = ±2 D. No vertical asymptote

_____32. What is the slant asymptote of $y = \dfrac{2x^2+3x+1}{x+2}$?

A. y = 2x – 3 B. y = 2x + 1 C. y = 2x - 2 D. y = 2x – 1

_____33. Would a hole be created on the graph $y = \frac{x^2 + 3x + 2}{x + 5}$?

A. No B. Yes C. What is a hole? D. I refuse to answer

_____34. Old VA license plates used to be 3 letters followed by 3 numbers. How many license plates could the state make in this manner?

A. Between 1 – 100,000 B. Between 100,001 – 1,000,000
C. Between 1,000,001- 20,000,000 D. Over 20,000,000

_____35. Which equation below is the quadratic equation?

A. $x = \frac{b \pm \sqrt{b^2 - 4ac}}{2a}$ B. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2c}$ C. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

_____36. $\begin{bmatrix} 1 & -3 & 0 \end{bmatrix} \bullet \begin{bmatrix} 2 \\ 1 \\ 5 \end{bmatrix}$ **NO CALCULATOR ALLOWED!**

A. $[2]$ B. $[0]$ C. $[-1]$ D. Not possible

_____37. $|2x + 3| < 9$

A. x > 3 or x <-6 B. -6 < x < 3
C. x > -6 or x < 3 D. None of the above

_____38. What is the derivative of $f(x) = 2x^6 + 4x^2 - 3x + 3$?

A. $12x^7 + 8x^3 - 3x^2 + 3x$ B. $12x^5 + 4x - 3$
C. $12x^5 + 8x - 3$ D. None of the above

_____39. What is the derivative of $f(x) = \frac{5}{x^6} + \frac{3}{x^2}$

A. $\frac{30}{x^7} + \frac{6}{x^3}$ B. $\frac{-30}{x^5} - \frac{6}{x^3}$ C. $\frac{-30}{x^5} - \frac{6}{x^2}$ D. $\frac{-30}{x^7} - \frac{6}{x^3}$

_____40. What is the slope of the line tangent to the graph of $f(x) = x^3 - x + 3$ at the point (2, 9)?

A. 10 B. 11 C. 12 D. 14

_____41. What is the x-intercept of $f(x) = x^2 + 8x - 9$? (NO CALCULATOR)

A. (-9, 0) (1, 0) B. (0, 1) (0, -9) C. (0, -9) (1, 0) D. (-1, 0) (9, 0)

_____42. If the discriminant value in the quadratic equation comes up to be a positive number, how many solutions exist?

A. 0 B. 1 C. 2 D. 3

_____43. If the discriminant value in the quadratic equation comes up to be a negative number, how many solutions exist?

A. 0 B. 1 C. 2 D. 3

BUBBLE 44-50 IN AS A.