

2018 Summer Assignment for Pre-Calculus

Students who did not receive an A on the Spring Final Exam (2018) for Algebra-2 will need to complete this summer assignment. Complete problems #1-22 on a separate sheet of paper. Please turn in to your Pre-Calc teacher on the first day of class for the 2018-2019 school year.

1. If $\frac{x}{6} > x$, which could be a value for x ?

A -1

B 0

C 2

D $\frac{1}{4}$

2. If $0 < a < 1$, which of the following increases as a decreases?

F $a - 1$

G $a^2 - 1$

H $\frac{1}{a}$

J a^2

3. If $3x - 2$ is an odd integer, what is the next consecutive odd integer?

A $3x - 1$

B $3x - 3$

C $3x + 1$

D $3x$

4. Jody sold 4 more than twice the number of cars that Laura sold. If Laura sold c cars, how many more did Jody sell than Laura?

F 4

G $c + 4$

H $3c + 4$

J $2c + 4$

5. If $8 - 3z = 16 + 5z$, then what is the value of $4z$?

A -16

B -4

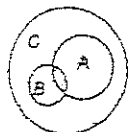
C 1

D 12

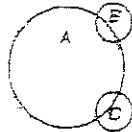
6. Which Venn diagram models the relationships among the sets $A = \{1, 2, 3\}$,

$B = \{-4, 0\}$, and $C = \{\text{positive integers}\}$?

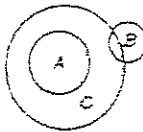
F



G



H



J



7. Divide using synthetic division: $(2x^3 - 3x + 5) \div (x - 2)$

8. For the function $y = |3 - x|$, what does y equal when $x = 4$.

9. Solve the inequality $-\frac{4}{3}x \leq 15$.

10. Solve the system using an algebraic method:

$$\begin{aligned} 6x - 2y &= -6 \\ 9x - 3y &= 15 \end{aligned}$$

11. What is the slope of a line that is perpendicular to the graph of $5x + 4y = 7$?

A $-\frac{5}{4}$ B $\frac{5}{4}$ C $-\frac{4}{5}$ D $\frac{4}{5}$

12. The graph of which equation is a line with undefined slope that passes through $(5, 1)$?

F $y = 1$ G $y = 5$ H $x = 1$ J $x = 5$

13. Which point does not satisfy the inequality $y < |2x - 3|$?

A $(0, 2)$ B $(-1, -3)$ C $(1, 3)$ D $(2, 0)$

14. To solve the system of equations $5x - y = 5$ and $2x + 3y = 18$, which expression could be substituted for y in the second equation?

F $5 - 3x$ G $3x - 5$ H $6 - \frac{2}{3}x$ J $18 - 2x$

15. Graph: $f(x) = 3(4)^x - 1$

16. Graph: $f(x) = \log_2(x - 1) + 4$

17. Solve $2x^2 = x + 1$ by graphing. If exact roots cannot be found, state the consecutive integers between which the roots are located.

18. Find $(f + g)(x)$, $(f - g)(x)$, $(f \cdot g)(x)$, and $\left(\frac{f}{g}\right)(x)$ for $f(x) = x^2 + 2x - 15$ and $g(x) = 2x - 1$.

For Questions 19 and 20, simplify.

$$19. \frac{10mp^4}{r^2} \div \left(\frac{5mp}{r^3}\right)^2$$

$$20. \frac{12x^4y^5 + 8x^3y^7 - 16x^2y^6}{4xy^5}$$

21. Write an exponential function for the graph that passes through (0, 4) and (-2, 100).

$$22. \text{Solve: } 3^{4x} = 9^{3x+7}$$