Name: _____ **ID: A**

9. Write the polynomial $3x^2 - 8x - 12x^5 - 5x^3 + 2x^4 - 6$ in standard form. Then give the leading coefficient.

10. Classify the polynomial according to its degree and number of terms.
$8x$

11. Add or subtract.
$-10m + 2m^4 - 13m - 20m^4$

12. Multiply.
$9x^4y^5\left(-5x^3y^3 - 3y^3\right)$

13. Sam earned $450 during winter vacation. He needs to save $180 for a camping trip over spring break. He can spend the remainder of the money on music. Write an inequality to show how much he can spend on music. Then, graph the inequality.

14. Simplify $\dfrac{9x^0y^{-8}}{z^{-8}}$.

15. Find the number of solutions of the equation $6x^2 + 4x + 4 = 0$ by using the discriminant.

16. Subtract. Simplify your answer.
$$\frac{x^2 + x + 6}{5x^3 + 8x^2 + 3x} - \frac{-4x^2 + 6}{5x^3 + 8x^2 + 3x}$$

17. Simplify $\dfrac{x+2}{4x-8} \cdot \dfrac{3x-9}{x+4} \cdot \dfrac{2x-4}{x^2 - x - 6}$.

18. Simplify the rational expression $\dfrac{x-3}{x^2 - 5x + 6}$.

19. Multiply. Simplify your answer.
$$\frac{8x^4y^2}{3z^3} \cdot \frac{9xy^2z^6}{4y^4}$$

20. Solve $64x^2 - 121 = 0$ by using square roots.

Name: De Leon David Class: _____ Date: _____ ID: A

Test **ALGEBRA** **Spring 2018**

____ 1. Find the degree of the polynomial $3x^3y^6 + 5xy + x^3$.

a. 6
b. 12
c. 9
d. 14

____ 2. Divide. Simplify your answer.

$$\frac{1}{m} \div \frac{m-8}{8m}$$

a. $\frac{8}{m-8}$
b. $\frac{1(8m)}{m(m-8)}$
c. $\frac{8}{m}$
d. $\frac{m-8}{8}$

____ 3. Solve the quadratic equation $x^2 + 2x - 8 = 0$ by factoring.

a. –4 and 2
b. 4 and 2
c. –4 and –2
d. 4 and –2

____ 4. Solve $x^2 = -4$ by using square roots.

a. The solutions are 2 and –2.
b. The solution is 2.
c. There is no solution.
d. The solution is –2.

____ 5. Solve $8x = x^2 - 9$ by using the Quadratic Formula.

a. $x = 9$ or $x = -1$
b. $x = 1$ or $x = -9$
c. $x = 54$ or $x = -46$
d. $x = 18$ or $x = -2$

6. Solve the inequality $\frac{z}{-4} \leq 2$ and graph the solutions.

7. Simplify $(m^2n^{-3})^2(-m^{-3}n^3)^3$.

8. The volume of the cone is $V = 8\pi x^2y^5$. The height is h and the radius of the base is $2y^2$. Write and simplify an expression for the cone's height.