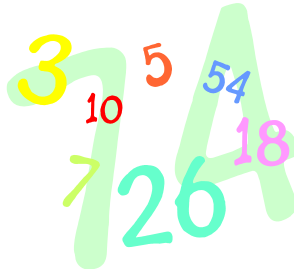


Archbishop Williams High School

Summer 2019

Summer Math Requirement



Students Entering **Algebra 2**

DIRECTIONS:

- Complete ALL problems
- Pencil ONLY
- Show ALL work. NO work = NO Grade
- Calculators are not needed
- Summer Math Packet will be graded
- Due Friday, September 6, 2019

Student Name _____

Simplify each expression using the distributive property.

1) $2(5x + 4)$

2) $\frac{1}{4}(12x - 8)$

3) $-(4x + 3)$

4) $-(-7x - 1)$

5) $(2x - 4)3$

6) $\frac{2}{3}(9x - 18)$

Solve each equation.

7) $17 = -8 + x$

8) $6x = 15$

9) $-0.5 = \frac{d}{4}$

10) $8f - 12 = 5f + 12$

11) $3k + 5 = 2(k + 1)$

12) $9 - x = 3x + 1$

Solve each equation for the given variable.

13) $5x + a = y$, solve for a

14) $m = 6(p + q)$, solve for q

15) $2x + 3y = 8$, solve for x

16) $xy = 3z$, solve for z

17) $w = 3(x + y + z)$, solve for y

18) $2w - 8y = z$, solve for y

Write an equation for the line through the given points in slope-intercept form.

19) $(2, -5), (0, -7)$

20) $(4, 3), (3, -2)$

21) $(2, -1), (-1, 8)$

22) $(2, 7), (-6, -5)$

23) $(-1, -10), (5, 2)$

24) $(0, 7), (-5, 12)$

Solve each system of linear equations by using substitution or elimination.

$$\begin{aligned} 25) \quad & -3x + y = -2 \\ & y = x + 6 \end{aligned}$$

$$\begin{aligned} 26) \quad & x - y = -2 \\ & -x - y = 0 \end{aligned}$$

$$\begin{aligned} 27) \quad & x + 4y = 5 \\ & 4x - 2y = 11 \end{aligned}$$

$$\begin{aligned} 28) \quad & 3x + y = 5 \\ & 2x - 5y = 9 \end{aligned}$$

$$\begin{aligned} 29) \quad & 2y - 3x = 4 \\ & x = -2 \end{aligned}$$

$$\begin{aligned} 30) \quad & 2x + y = -1 \\ & 6x = -3y - 3 \end{aligned}$$

Write each expression so that it contains only positive exponents.

31) $(\frac{2}{7})^{-4}$

32) $3ab^0$

33) $\frac{3x^{-2}}{y}$

34) $\frac{(2x)^{-2}}{3y^{-1}}$

35) $\frac{(3a)^2b^{-3}}{b^{-2}}$

36) $\frac{4^05^3}{2^{-3}}$

Simplify each expression.

37) $3x^2 \cdot 4x \cdot 2x^3$

38) $m^2 \cdot 3m^4 \cdot 6a \cdot a^{-3}$

39) $7y^2 \cdot 3x^2 \cdot 9$

40) $6a^2 \cdot b \cdot 2a^{-1}$

41) $r^6 \cdot s^{-3} \cdot r^{-2} \cdot s$

42) $3p^{-2} \cdot q^3 \cdot p^3 \cdot q^{-2}$

Simplify each expression.

43) $(x^2y^4)^3$

44) $(c^4)^7$

45) $(x^2y^3)^2$

46) $(-2x^2)^3$

47) $(-4x^2y^3)^3$

48) $(xyz)^0$

Simplify.

49) $\frac{z^6}{z^3}$

50) $\left(\frac{b^7}{b^5}\right)^3$

51) $\frac{x^{12}}{x^5}$

52) $\frac{x^3}{x^8}$

53) $\left(\frac{10^8}{10^2}\right)^3$

54) $\frac{14x^{11}}{7x^{10}}$

Simplify. Write each answer in standard form.

55) $(2x^2 - 3x + 4) + (3x^2 + 2x - 3)$

56) $(7x^3 - 3x + 1) - (x^3 + x^2 - 2)$

57) $(3y^2 - 3y + 2) + (4y^2 + y - 1)$

58) $(5x^2 - 10) - (3x^2 + 7)$

59) $(3x^2 + 7x - 6) + (x^3 + x^2 - x - 1)$

60) $(4x^2 - x + 6) - (3x^2 - 4)$

Simplify each product.

61) $(7x + 4)(2x - 4)$

62) $(3x + 2)(3x + 2)$

63) $(5x + 1)(x + 1)$

64) $(2x + 1)(x + 1)$

65) $(4x + 1)(2x - 1)$

66) $(3x - 1)(x + 2)$

Find each product.

$$67) (x - 7)^2$$

$$68) (2x + 3)^2$$

$$69) (5x - 4)^2$$

$$70) (x + 8)(x - 8)$$

$$71) (3x + 2)(3x - 2)$$

$$72) (7x - 1)(7x + 1)$$