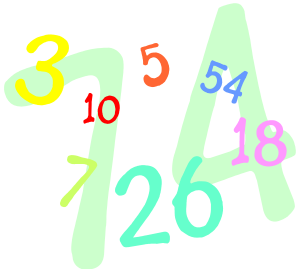
Archbishop Williams High School

Summer 2019

Summer Math Requirement



Students Entering **Algebra 1/2**

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.

1) $8 + 2 \times 7$	2) $16 \div 2 - 5$
3) $\frac{8+12}{5}$	4) $5(2 + 4) + 15 \div (9 - 6)$
5) $4 \cdot 9 + 8 \div 2 - 6 \cdot 5$	6) $[7 + 3 \cdot 2 + 8] \div 7$

Simplify each expression by following the order of operations.

7) $(5 \cdot 3) - 18$	8) $5 \cdot (3 - 18)$
9) $18 \div (9 - 15 \div 5)$	10) $18 \div 9 - 15 \div 5$
11) $2 \cdot 8 - 6^2$	12) $2 \cdot (8 - 6^2)$

Evaluate each expression.

13) $\frac{6}{a} + b$, *for* $a = 3$ *and* $b = 7$	14) $15a - 2(b + c)$, *for* $a = 2,\ b = 3,$ *and* $c = 4$
15) $x + 3y - 4(z - 3)$ *for* $x = 4,\ y = 6,$ *and* $z = 5$	16) $\frac{36}{j} - 4(k + l)$, *for* $j = 2,\ k = 1,$ *and* $l = 3$
17) $3a - 2b + b(6 - 2)$, *for* $a = 4,\ b = 2$	18) $r(p + 3) + q(p - 1)$, *for* $p = 7,\ q = 4,$ *and* $r = 3$

Simplify each expression.

19) $(c^5)(c)(c^2)$	20) $\frac{m^{15}}{m^5}$
21) $(p^4q^2)(p^7q^5)$	22) $\frac{12a^4b^6}{36ab^2c}$
23) $4x(2x^2y)^0$	24) $(-t^7)^3$

Simplify.

25) $8x - 9y + 16x + 12y$	26) $5n - (3 - 4n)$
27) $10q(16x + 11)$	28) $3(18z - 4w) + 2(10z - 6w)$
29) $9(6x - 2) - 3(9x^2 - 3)$	30) $-(y - x) + 6(5x + 7)$

Multiply. Write your answer in simplest form.

31) $(x+10)(x-9)$	32) $(x-10)(x-2)$
33) $(2x-1)(4x+3)$	34) $(-2x+10)(-9x+5)$
35) $(-x+5)^2$	36) $(2x-3)^2$

Solve each equation. Show your work.

37) $5x - 2 = 33$	38) $8(3x - 4) = 196$
39) $132 = 4(12x - 9)$	40) $-131 = -5(3x - 8) + 6x$
41) $12x + 8 - 15 = -2(3x - 82)$	42) $-(12x - 6) = 12x + 6$

Solve and graph each inequality.

43) $4x + 3 < 11$	44) $3x + 2 < 2x + 5$
45) $5x + 4 < 14$	46) $4x - 3 < 3x - 1$
47) $3x + 4 > 2x + 3$	48) $2x + 5 \geq -1$

Solve each proportion.

49) $\frac{x}{5} = \frac{2}{10}$	50) $\frac{2}{6} = \frac{4}{x}$
51) $\frac{t}{5} = \frac{3}{5}$	52) $\frac{28}{8} = \frac{7}{x}$
53) $\frac{3}{18} = \frac{t}{6}$	54) $\frac{9}{n} = \frac{18}{2}$

Find the slope of the line that contains each pair of points.

55) $(-1,\ 4)$ *and* $(1,\ 2)$	56) $(3,\ 5)$ *and* $(-3,\ 1)$
57) $(2,\ -4)$ *and* $(6,\ -4)$	58) $(2,\ 1)$ *and* $(-2,\ -3)$
59) $(1,\ -3)$ *and* $(-1,\ -2)$	60) $(5,\ -2)$ *and* $(5,\ 7)$

Simplify each radical.

61) $\sqrt{121}$	62) $\sqrt{486}$
63) $2\sqrt{16}$	64) $8\sqrt{475}$
65) $\sqrt{\frac{125}{9}}$	66) $6\sqrt{500}$

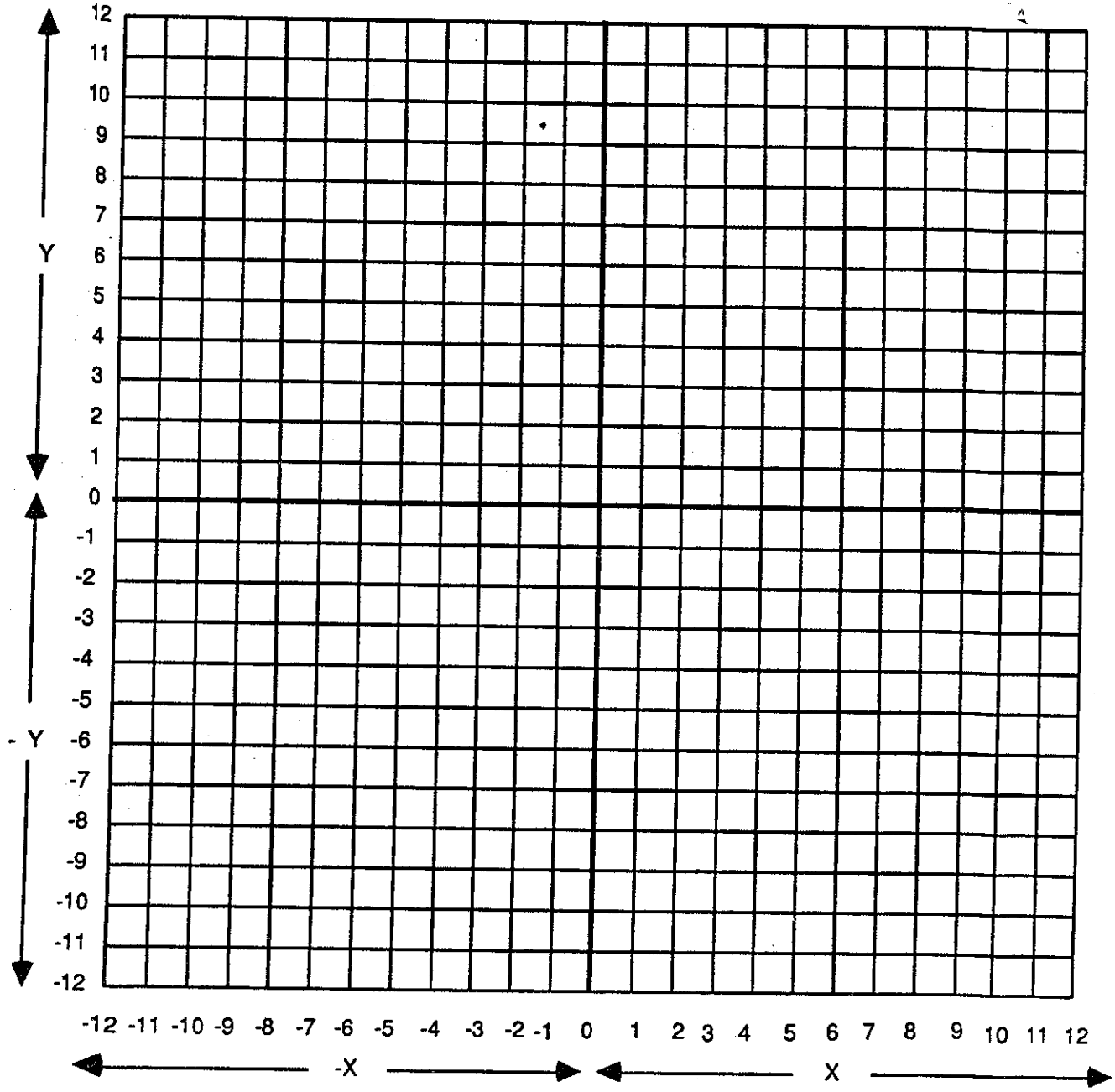
GRAPHITI

Student's Name _____ 18A

Class _____ Date _____

Locate the following points on the graph below and connect them in order with straight line segments. Do not connect points separated by the word "STOP."

(X,Y) = (-5,-7), (-5,-8), (-6,-8), (-6,-7), (-5,-7) STOP (6,-5), (7,-6), (6,-7), (5,-6), (6,-5) STOP (-5,-2), (-5,-5), (-6,-4), (-6,-2), (-5,-2) STOP (6,2), (6,1), (7,0), (7,-2), (6,-3), (5,-2), (5,-1), (6,2) STOP (-4,3), (-1,-9), (0,-11), (1,-9), (4,3), (3,2), (-3,2), (-4,3), (-5,3). (-6,4), (-5,1), (-5,-1), (-6,-1), (-7,0), (-7,6), (-6,7), (-6,8), (-5,10), (-4,11), (-2,11), (-1,10), (0,10), (1,11), (3,11), (4,9), (5,9), (6,8), (6,7), (7,6), (7,4), (6,3), (3,3), (2,4), (1,4), (0,3), (-1,3), (-2,4), (-3,4), (-4,3) STOP (-6,5), (-5,6), (-4,6), (-3,5) STOP (0,5), (1,6), (3,6), (4,5) STOP (-3,6), (-2,7), (0,7), (1,8), (3,8), (5,7), (6,5), (5,4) STOP (-5,7), (-4,9), (-3,9), (-2,8), (-1,8), (1,10), (2,10), (3,9) STOP (-3,-1), (-2,-2), (2,-2), (3,-1) STOP (-2,-5), (-1,-6), (1,-6), (2,-5).



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