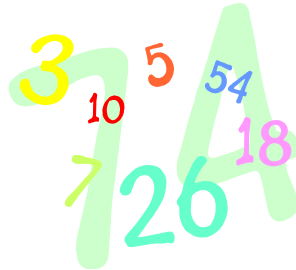


Archbishop Williams High School

Summer 2019

Summer Math Requirement



Students Entering **Geometry**

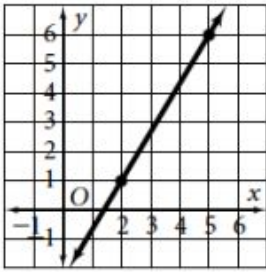
**DIRECTIONS:**

- 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

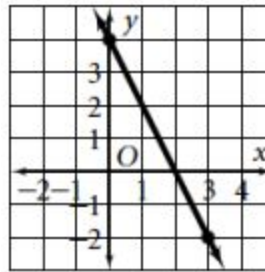
Student Name \_\_\_\_\_

Find the slope of the line.

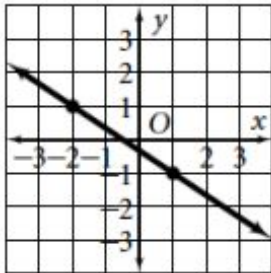
1)



2)



3)



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

5)  $(2, 4), (6, 7)$

6)  $(5, 2), (8, -4)$

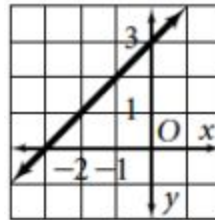
Write an equation of a line with the given information.

7)  $m = 4, b = 8$

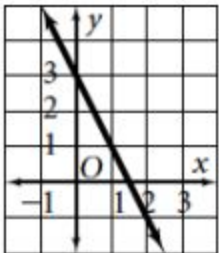
8)  $m = \frac{4}{3}, b = 0$

9)  $m = -6, b = 1$

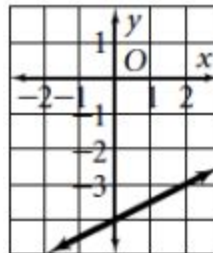
10)



11)



12)



Write an equation in point-slope form for the line with the given slope and passes through the given points.

13)  $m = \frac{1}{4}, (0, -2)$

14)  $m = -2, (0, 1)$

15)  $m = -\frac{7}{6}, (0, 2)$

16)  $m = -\frac{8}{3}, (3, -3)$

17)  $m = -6, (3, -1)$

18)  $m = -\frac{1}{2}, (8, -1)$

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

19) (2, 3); (1, 5)

20) (5, -2); (-16, 4)

21) (2, -4); (11, -4)

22) (7, 5); (-1,  $\frac{1}{5}$ )

23) (4, -3); (2, 1)

24) (8, 6); (6, 4)

Solve each equation.

$$25) \frac{1}{2}(x - 3) + \left(\frac{3}{2} - x\right) = 5x$$

$$26) 7y + 5 = 6y + 11$$

$$27) t - 3\left(t + \frac{4}{3}\right) = 2t + 3$$

$$28) 3(x + 1) = 2(x + 11)$$

$$29) 0.5(c + 2.8) - c = 0.6c + 0.3$$

$$30) \frac{u}{5} + \frac{u}{10} - \frac{u}{6} = 1$$

Solve each proportion.

$$31) \frac{x}{5} = \frac{2}{10}$$

$$32) \frac{9}{180} = \frac{n}{60}$$

$$33) \frac{2}{x} = \frac{8}{36}$$

$$34) \frac{t}{5} = \frac{3}{5}$$

$$35) \frac{28}{8} = \frac{7}{x}$$

$$36) \frac{9}{n} = \frac{18}{2}$$

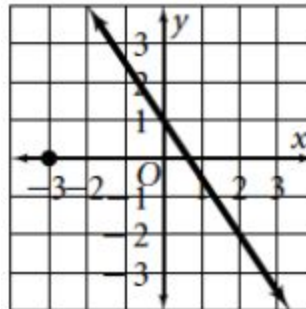
Write an equation for the line that is perpendicular to the given line and that passes through the given point.

37)  $(6, 4)$ ;  $y = 3x - 2$

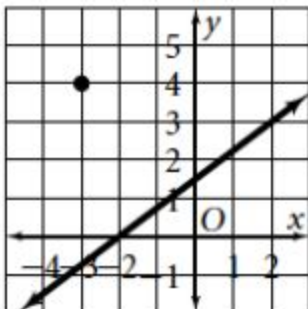
38)  $(1, 1)$ ;  $y = -\frac{1}{4}x + 7$

39)  $(12, -6)$ ;  $y = 4x + 1$

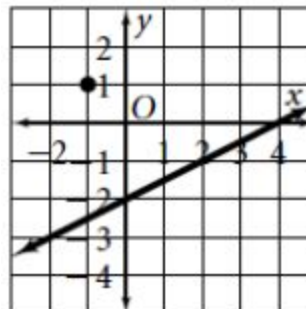
40)



41)



42)





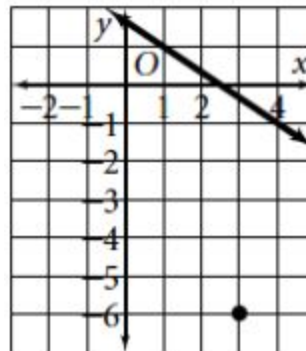
Write an equation for the line that is parallel to the given line and that passes through the given point.

43)  $(3, 4)$ ;  $y = 2x - 7$

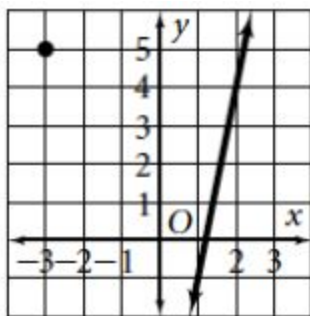
44)  $(1, 3)$ ;  $y = -4x + 5$

45)  $(-8, -4)$ ;  $y = -\frac{3}{4}x + 5$

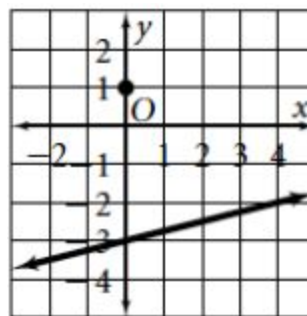
46)



47)



48)



Simplify each expression. Use positive exponents.

49)  $a^4 b^{-7} c^0$

50)  $\frac{p^3 q^{-1}}{q^2 r^{-6}}$

51)  $(m^3 n^{-5} m^{-1})^{-3}$

52)  $\left(\frac{x^4 y^{-2}}{x^{-3} y^5}\right)^{-1}$

53)  $u^{-5} v^4 (-u^3 v^{-2})^3$

54)  $(0.93^6)(0.93^{-8})$

Solve each equation for the indicated variable.

55)  $3m - n = 2m + n$ , for  $m$

56)  $2(u + 3v) = w - 5u$ , for  $u$

57)  $ax + b = cx + d$ , for  $x$

58)  $k(y + 3z) = 4(y - 5)$ , for  $y$

59)  $\frac{x+k}{j} = \frac{3}{4}$ , for  $x$

60)  $\frac{1}{2}r + 3s = 1$ , for  $r$

**THE REST IS FOR ACCELERATED AND HONORS ONLY**

Simplify each radical expression.

61)  $4\sqrt{10} - 7\sqrt{10}$

62)  $\frac{\sqrt{49}}{\sqrt{84}}$

63)  $16\sqrt{8} + 3\sqrt{4}$

64)  $3\sqrt{7} - \sqrt{28}$

65)  $\frac{18}{\sqrt{5}}$

66)  $(\sqrt{6} - 4)^2$

Solve each quadratic. (some are factorable, some will require the quadratic formula)

$$67) 3x^2 + 7x + 2 = 0$$

$$68) x^2 - 7x + 12 = 0$$

$$69) 4y^2 = 3 - 5y$$

$$70) 3x^2 - 5x + 2 = 0$$

$$71) x^2 + 5x = 6$$

$$72) -3x^2 + x + 5 = 0$$