

Geometry Honors Summer Assignment

This assignment is for students who have completed Algebra I and are taking Geometry Honors in the 2018-2019 school year.

1) Did you read the instructions?

2) What math class are you taking in the 2018-2019 school year?

Solve each equation.

3) $-33 + 8n = 1 + 6(1 + 3n)$

4) $2(5 - a) = -8(5a - 6)$

5) $-\frac{3}{2}x + 1 = -\frac{7}{2} + \frac{1}{2}x$

6) $\frac{179}{36} + \frac{1}{3}n = \frac{5}{2}n - \left(-\frac{1}{4}n + \frac{2}{3}\right)$

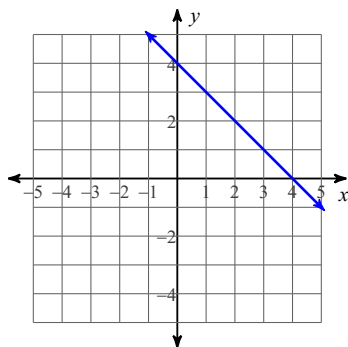
Solve each proportion.

7) $\frac{a}{7} = \frac{a+1}{6}$

8) $\frac{k+8}{5} = \frac{k-4}{2}$

Write the slope-intercept form of the equation of each line.

9)



Write the slope-intercept form of the equation of the line through the given points.

10) through: $(5, 0)$ and $(0, -1)$

Write the slope-intercept form of the equation of the line described.

11) through: $(-4, -4)$, parallel to $y = 2x + 1$

12) through: $(4, -2)$, perp. to $y = 2x - 5$

Solve each system by substitution.

13) $y = -7x + 22$
 $y = -5x + 14$

14) $-7x + 2y = -8$
 $y = x - 4$

Solve each system by elimination.

15) $7x + 5y = -22$
 $x - 5y = 14$

16) $7x + 5y = 6$
 $7x + 5y = 14$

17) $3x - 2y = -9$
 $7x - 4y = -23$

18) $10x - 5y = -5$
 $7x - 8y = -8$

19) Flying with the wind a plane went 167 mph. Flying into the same wind the plane only went 115 mph. What is the speed of the wind? How fast would the plane go if there were no wind?

20) The school that Ted goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 10 adult tickets and 8 child tickets for a total of \$220. The school took in \$260 on the second day by selling 14 adult tickets and 8 child tickets. Find the price of an adult ticket and the price of a child ticket.

Simplify. Your answer should contain only positive exponents.

21) $3x^2y^2 \cdot 4y^{-4}$

22) $(ab^0)^0 \cdot (2a^4b^{-4})^3 \cdot a^2b^3$

23) $\frac{2x^0y^2 \cdot 2y^3}{(2x^{-2})^2}$

Simplify each sum.

24) $(-6 - 6x - 5x^2) + (-x^3 + 7x + 4)$

Simplify each difference.

25) $(2n^2 - 3n + 6n^4) - (-7n^4 - 7n^2 + 7n)$

Find each product.

26) $\frac{13}{5} \left(\frac{5}{3}r^2 + \frac{1}{2}r + \frac{7}{5} \right)$

27) $(m + 2)(5m - 2)$

28) $(5 + x)(5 - x)$

29) $(2n - 1)^2$

Factor the common factor out of each expression.

30) $7x + 28x^3$

31) $80c^3a - 32c^6 - 56ca^2b^3 + 72c^3b^3$

Factor each completely.

32) $56r^3 - 224r^2 + 32r - 128$

33) $7n^3 + 21n^2 - 8n - 24$

34) $p^2 + 4p - 12$

35) $5n^2 + 33n + 18$

36) $18n^2 - 58n + 12$

Solve each equation by taking square roots.

37) $9k^2 + 10 = 775$

38) $2p^2 - 4 = 14$

Solve each equation by factoring.

39) $8a^2 + 8a - 4 = -4$

40) $3k^2 + 4k - 32 = 0$

Solve each equation by completing the square.

41) $b^2 + 16b - 75 = 5$

42) $k^2 - 9k - 70 = 0$

Solve each equation with the quadratic formula.

43) $4x^2 - 8x + 4 = 0$

44) $-5r^2 - 6r + 19 = 11$

Simplify.

45) $-2\sqrt{64x^4y}$

46) $-2\sqrt{108ab^2}$

47) $-\sqrt{3} - 2\sqrt{3} - 2\sqrt{20}$

48) $\sqrt{20} + \sqrt{24} + \sqrt{54}$

49) $-3\sqrt{2n^3} \cdot 2\sqrt{3n}$

50) $\sqrt{15}(-2\sqrt{6} + 4)$

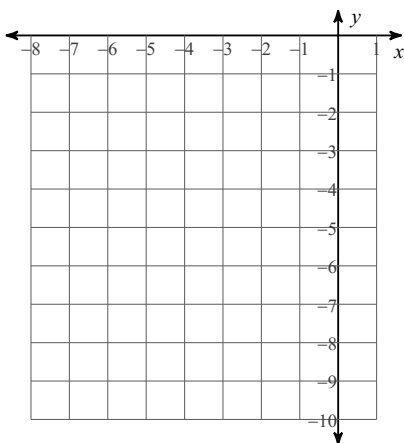
51) $(-4\sqrt{3} + \sqrt{5})(-5\sqrt{3} + \sqrt{5})$

52) $\frac{\sqrt{4n}}{3\sqrt{3n}}$

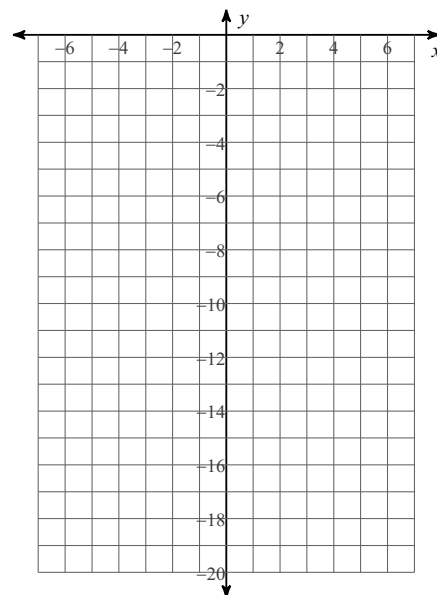
53) $\frac{\sqrt{9a^4}}{\sqrt{15a^3}}$

Sketch the graph of each function.

54) $f(x) = -2x^2 - 16x - 33$

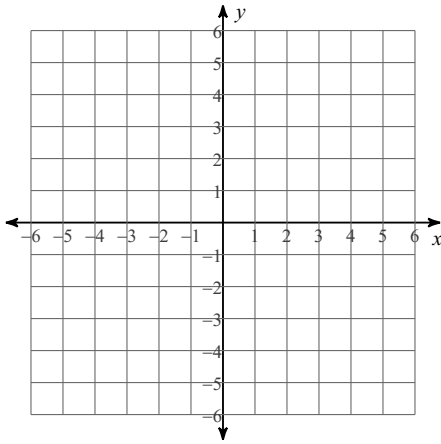


55) $f(x) = -5 \cdot \left(\frac{1}{2}\right)^x$

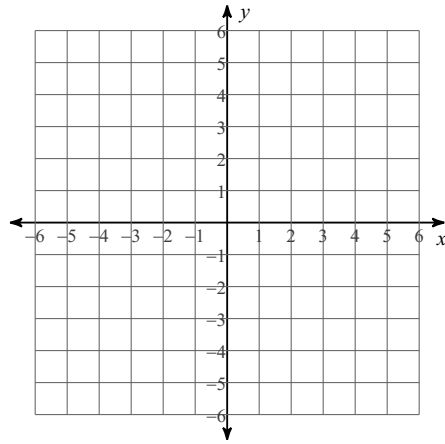


Sketch the graph of each linear inequality.

56) $y < 4x + 4$



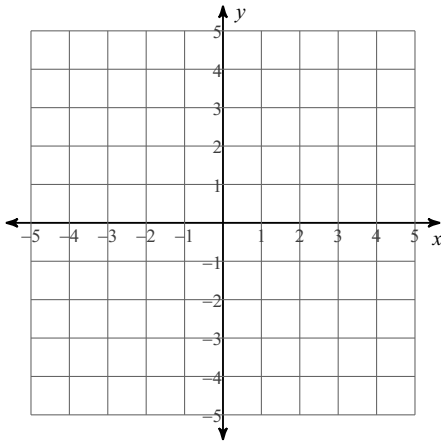
57) $x + 4y \geq 16$



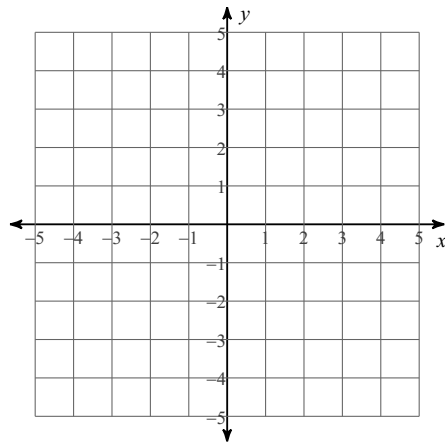
Solve each system by graphing.

58) $y = \frac{1}{2}x + 4$

$y = -\frac{7}{2}x - 4$

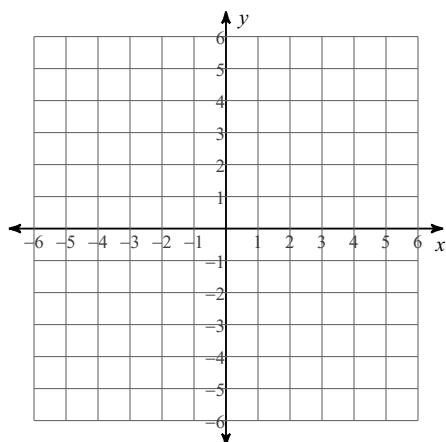


59) $8x + y = 4$
 $x + y = -3$



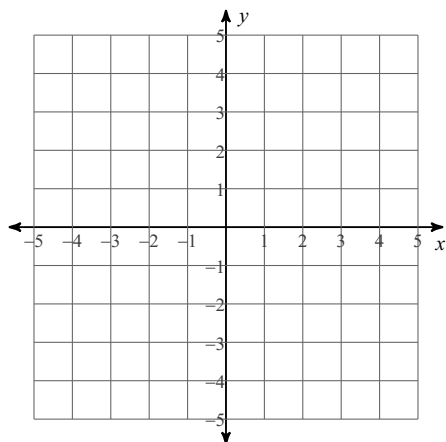
Sketch the graph of each line.

60) $3x + 2y = 2$



Sketch the solution to each system of inequalities.

61) $y > \frac{2}{3}x - 3$
 $y < -x + 2$



62) $4x - 3y > -3$
 $x - 3y > 6$

