

This is the mandatory summer assignment packet. **This packet is due August 20, 2018.**

The bridging assignment reviews concepts of Algebra I and Geometry.

You should be familiar with the topics well enough to be tested on them. This is material that will be reviewed in the course.

It is expected that you come in with a strong understanding of these topics.

If you are unsure of how to do these problems, please seek help with them.

Past notebooks and Khan Academy are valuable resources to assist in completing the work as well as many online tools.

Work may be done on looseleaf paper if more space is needed.

Completed packets must be brought in personally or mailed to the main office.

They may also be scanned as a PDF and emailed to kwon@jwhallahan.com.

Find the sum, difference, or product.

$$1. \begin{bmatrix} -3 & 6 \\ 2 & 0 \end{bmatrix} - \begin{bmatrix} -2 & 5 \\ 2 & 0 \end{bmatrix}$$

$$2. \begin{bmatrix} 4 & -1 \\ 2 & 0 \\ 3 & 5 \end{bmatrix} + \begin{bmatrix} -2 & 0 \\ 3 & -1 \\ -3 & 5 \end{bmatrix}$$

$$3. -2 \begin{bmatrix} 3 & -1 \\ 7 & -2 \end{bmatrix}$$

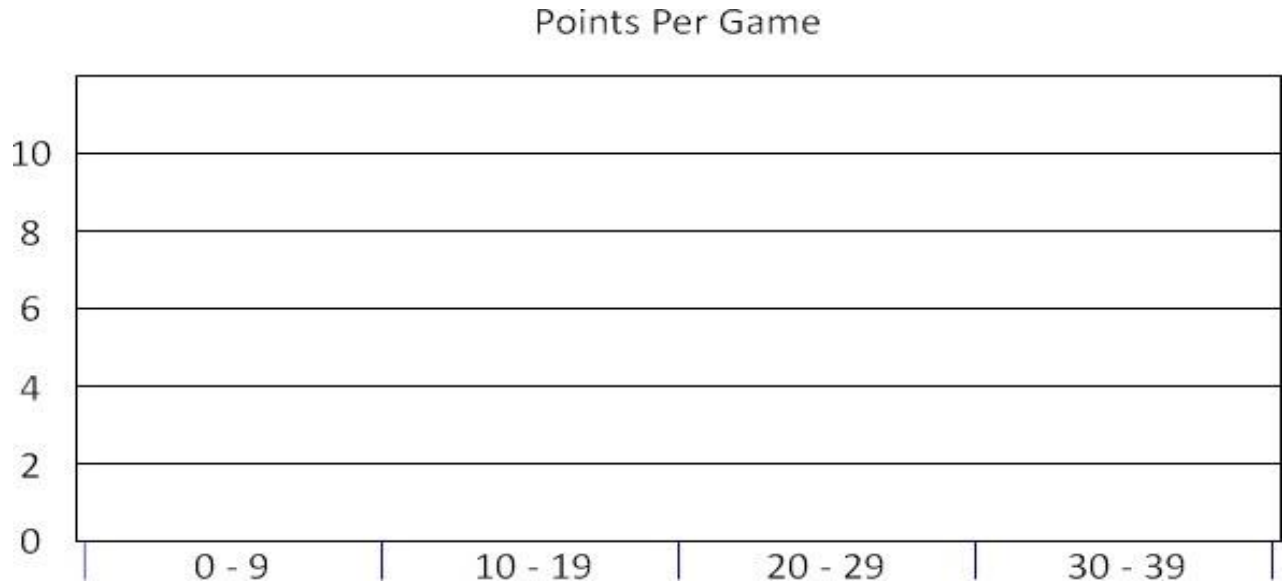
Use the data to make a frequency table with three intervals.

4. Wing spans (cm): 150, 126, 139, 144, 125, 149, 133, 140, 142, 149, 150, 127, 130

Wing Spans	
Number of Centimeters	Frequency

Use the data to make a histogram.

5. Points per game: 10, 2, 13, 18, 22, 20, 8, 9, 12, 33, 10, 13, 21, 18, 5, 16, 17, 13



Use the data set for exercises 6 to 9.

3, 5, 8, 5, 8, 7, 16, 10, 2, 7, 1, 5, 6, 1

6. Find the mean.

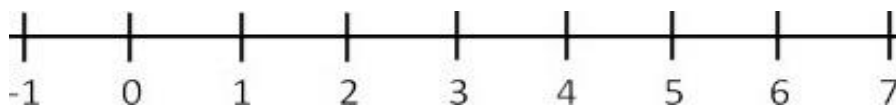
7. Find the median

8. Find the mode.

9. Find the range.

Use the data set to make a line plot.

10. 3, 6, 4, 3, 6, 0, 4, 5, 0, 4, 6, 1, 5, 1, 0, 5, 5, 6, 5, 3



Use the data set for exercises 11 to 15.

song lengths (s): 227, 221, 347, 173, 344, 438, 171, 129, 165, 333

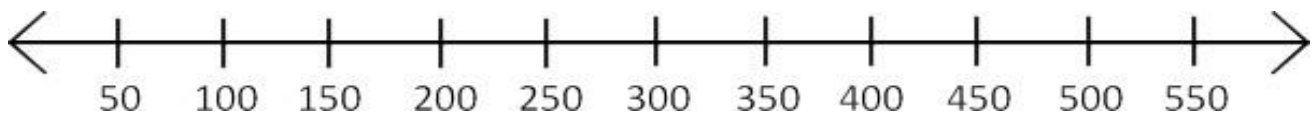
11. Find the median.

12. Find the lower quartile.

13. Find the upper quartile.

14. Find the interquartile range.

15. Make a box-and-whisker plot.



The spinner is divided into six equal parts. Find the theoretical probability of landing on the given section(s) of the spinner.



16. P (blue)

17. P (5)

18. P (even)

19. P (less than 5)

Simplify each expression. State any excluded values.

20. $\frac{6a+9}{12}$

21. $\frac{m+4}{m^2+2m-8}$

22. $\frac{4m-8}{4-2m}$

23. $\frac{2b-8}{b^2-16}$

Multiply or divide.

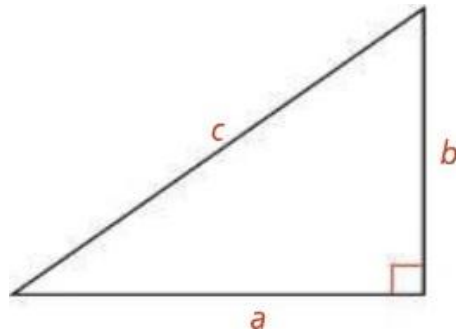
24. $\frac{2x}{x+1} \cdot \frac{x-1}{3}$

25. $\frac{r^2+5r+6}{2r} \cdot \frac{r-2}{r+3}$

26. $\frac{x^2+6x+8}{x^2+x-2} \div \frac{x+4}{2x+4}$

27. $\frac{3t+12}{5t} \div \frac{t+4}{10t}$

Use the triangle. Find the missing side length. If necessary, round to the nearest tenth.



28. $a = 3, b = 4$

29. $a = 6, b = 10$

30. $b = 3.5, c = 3.7$

Simplify each radical expression or product.

31. $\sqrt{225}$

32. $\sqrt{99}$

33. $-\sqrt{60}$

34. $\sqrt{8} \cdot \sqrt{32}$

35. $4\sqrt{10} \cdot 2\sqrt{90}$

36. $3\sqrt{5c} \cdot 7\sqrt{15c^2}$

37. $\sqrt{\frac{16}{25}}$

38. $\sqrt{\frac{3x^3}{64x^2}}$

39. $\sqrt{\frac{5}{8x}}$

Solve each radical equation.

50. $\sqrt{x} + 3 = 5$

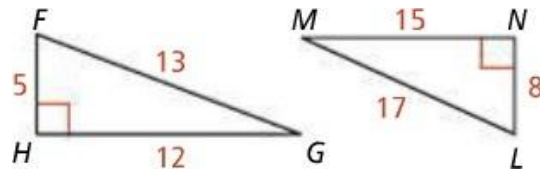
41. $1 = \sqrt{-2v - 3}$

Find the value of each expression. Round to the nearest ten-thousandth.

42. $\sin 10^\circ$

43. $\cos 85^\circ$

For $\triangle FGH$ and $\triangle LMN$, find the value of each expression.

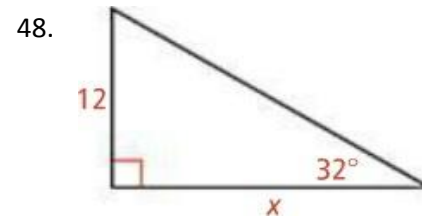
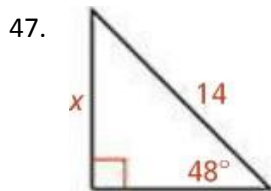


44. $\sin F$

45. $\cos L$

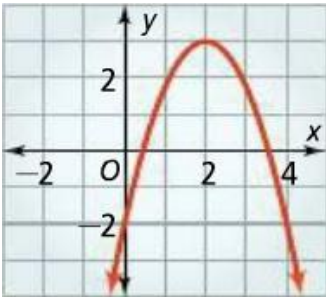
46. $\tan G$

Find the value of x to the nearest tenth.



Identify the vertex of each parabola. Tell whether it is a minimum or maximum.

50.

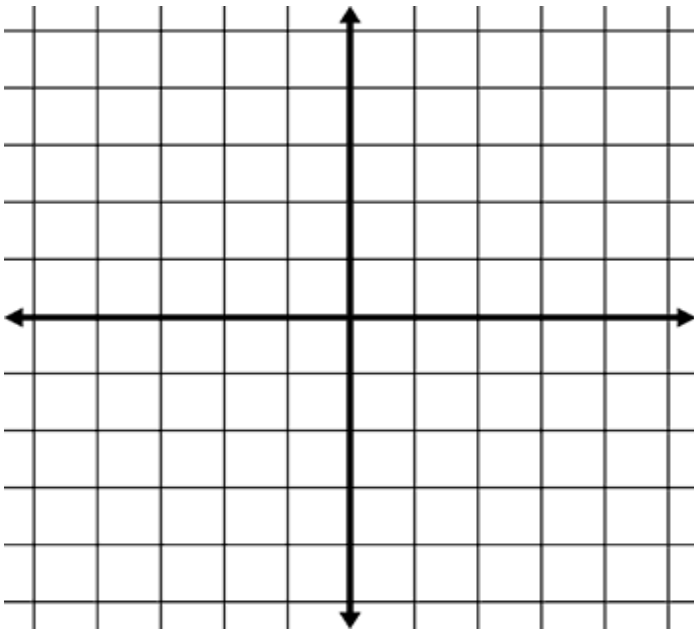


51.

x	y
0	8
1	2
2	0
3	2
4	8

Graph each function. Then identify the domain and range of the function.

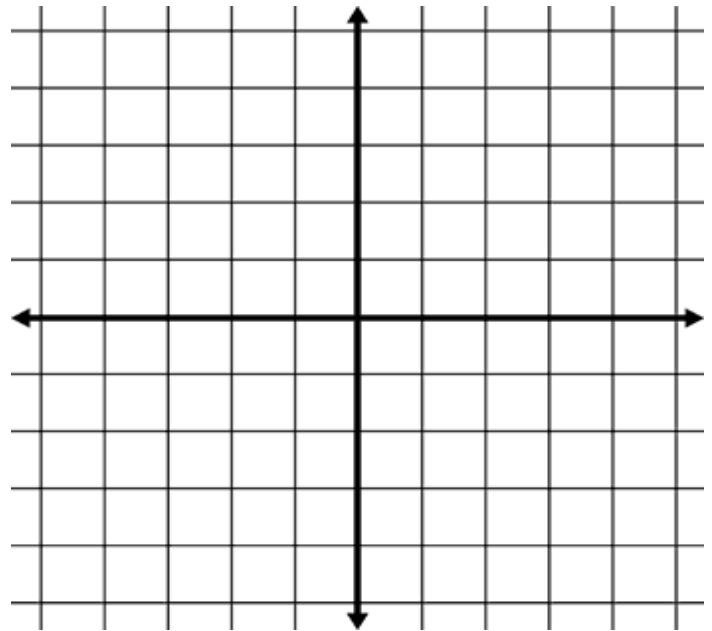
52. $f(x) = x^2 - 3$



domain:

range:

53. $y = (x - 2)^2$



domain:

range:

Solve each equation by finding square roots. If the equation has no real-number solution, write no solution.

54. $64b^2 = 16$

55. $3a^2 + 12 = 0$

Solve by factoring.

56. $9b^2 - 16 = 0$

57. $g^2 + 4g - 32 = 0$

Simplify. Write each answer in standard form.

58. $(-9r^3 + 2r - 1) - (-5r^2 + r + 8)$

59. $(3z^3 - 4z + 7z^2) + (8z^2 - 6z - 5)$

60. $p(p + 2) - 3p(p - 5)$

61. $-2x(5x^2 - 4x + 13)$

Factor each polynomial.

62. $14n^3 - 35n^2 + 28$

63. $14x^3 - 2x^2 + 8x$

Simplify each product.

64. $(3h + 2)(6h - 5)$

65. $(x + 5)(x^2 - 3x + 1)$

66. $(5m - 2)^2$

67. $(2r + 3)(2r - 3)$

Factor each expression.

68. $r^2 - 11r + 24$

69. $n^2 - 3n - 10$

$$70. 5z^2 + 19z - 4$$

$$71. w^2 - 144$$

$$72. 3n^3 - 12n^2 + 2n - 8$$

Simplify each expression.

$$73. \frac{(6d^{-5})(-3d^{-4})}{2d^{-3}}$$

$$74. \left(\frac{12c^6}{c^2d^5} \right)^2$$

$$75. (5j^3k^3)^4 (j^2k^2)^0$$

$$76. (8q^3p^9)(-2q^5p^8)$$

Solve the system of equations by graphing. Identify the slope and y-intercept of each equation.

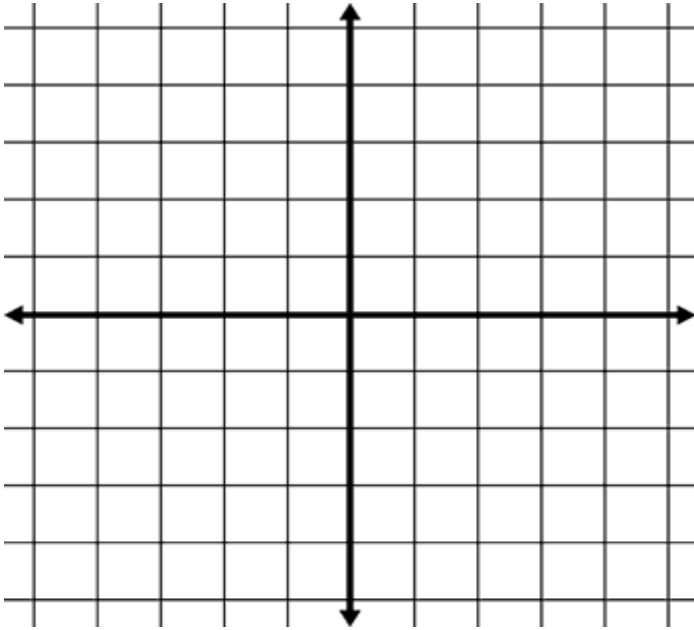
77. $2x - y = -1$
 $y = -x + 4$

m_1 :

m_2 :

b_1 :

b_2 :



Point of Intersection: _____

Identify the system of equations algebraically. Show work.

78. $y = \frac{1}{2}x - 1$
 $-3x + 6y = -6$

_____ Independent

_____ Dependent

_____ Inconsistent

Solve the system of equations algebraically.

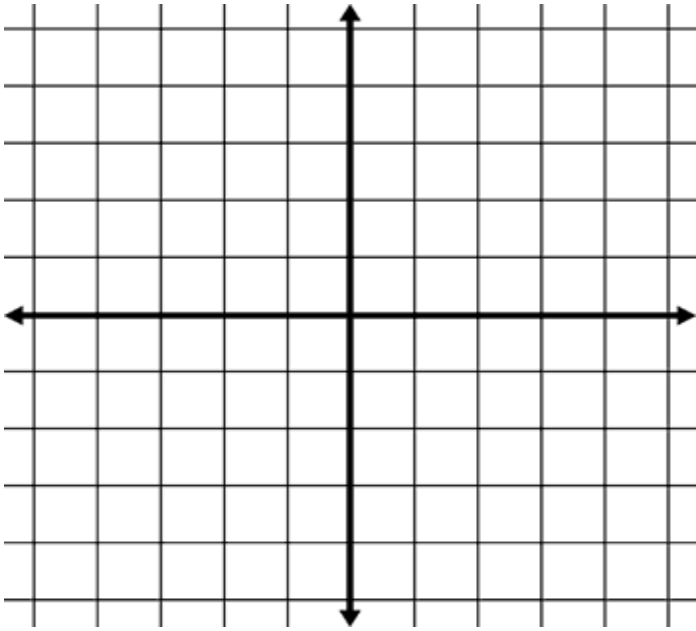
79. $7x - 2y = 1$
 $2y = x - 1$

80. $6x - 3y = 15$
 $7x + 4y = 10$

81. $3x + 4y = 24$
 $6x + 8y = 24$

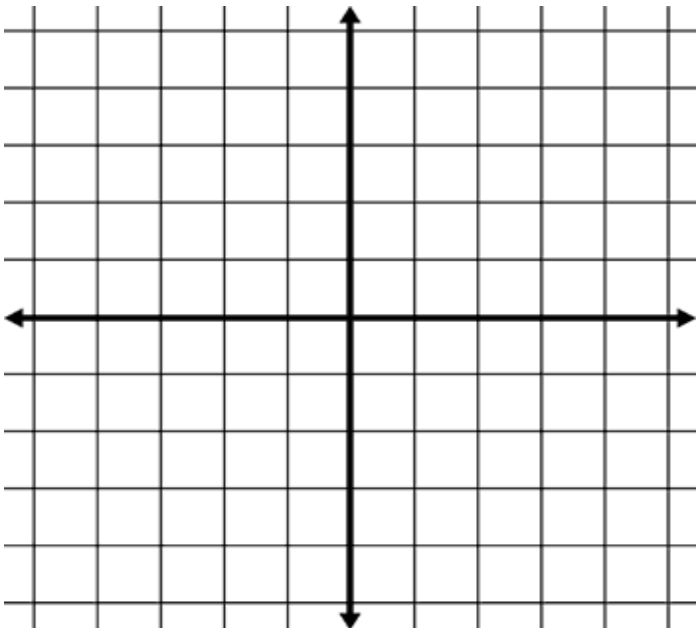
Solve the system of inequalities by graphing.

82. $y < 2x - 3$
 $2x + y \geq 2$

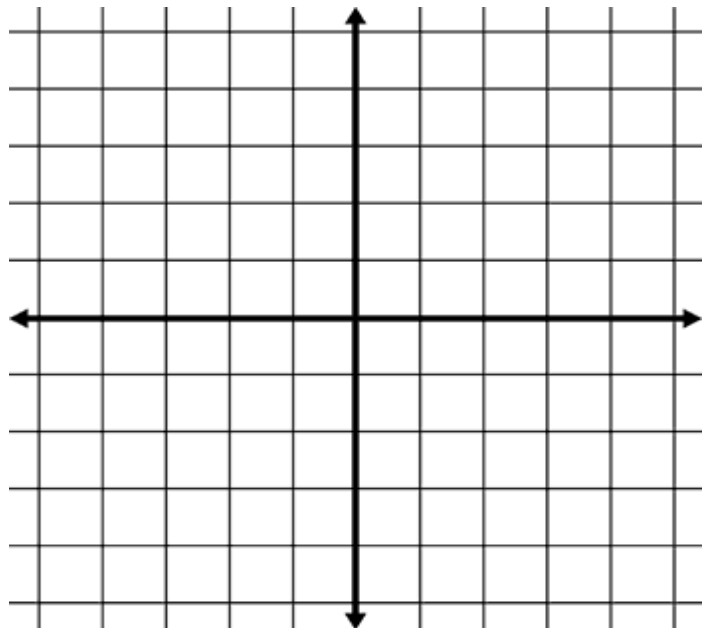


Graph each equation. Plot as many points as possible. Use a straight edge.

83. $y + 4 = -\frac{2}{3}(x - 3)$



84. $x = 3$



Write an equation in point-slope form of the line that passes through the given point and is parallel to the graph of the given equation.

85. $(2, -1)$; $y = -\frac{3}{2}x + 6$

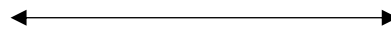
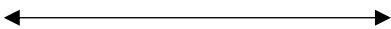
Write an equation in point-slope form of the line that passes through the given point and is perpendicular to the graph of the given equation.

86. $(-1, 2)$; $y = \frac{2}{3}x + 1$

Solve and graph the inequality.

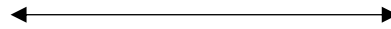
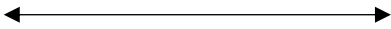
87. $3(2 + t) \geq 15 - 2t$

88. $h - 7 \geq -5$ and $h + 4 < 10$



89. $6b - 1 \leq 41$ or $2b + 1 \geq 11$

90. $3 < 4p - 5 \leq 15$



Solve the equation. If there is no solution, write no solution.

91. $4 | 2y - 3 | - 1 = 11$

92. $-2 | 7d | = 14$

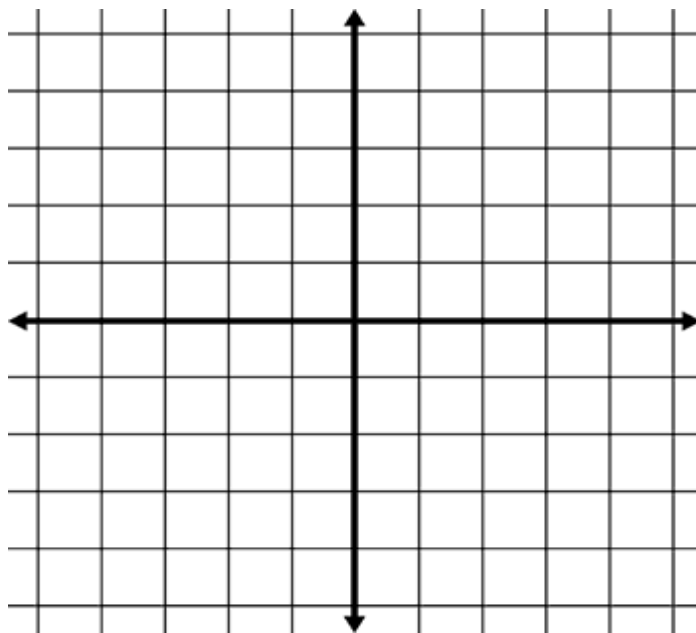
Solve and graph the inequality.

93. $|x - 3| > 5$



Graph the absolute value equation. Plot as many points as possible. Use a straight edge.

94. $y = |x + 2| - 1$



Solve the equation. Show work. If the equation is an identity, write identity. If it has no solution, write no solution.

95. $5.5 - 3b = 2b + 6.25$

96. $4(-3x + 4) = -2(6x - 8)$

97. $\frac{y - 4}{2} = 10$

98. $\frac{x}{3} + \frac{4}{5} = 2x - \frac{5}{6}$

99. $-49 = 6c - 13 - 4c$

100. $-\frac{3d}{4} + 5 = 11$