

Name _____

Math Teacher _____

Geometry
Summer Packet
Port Charlotte High School

Many topics that we will study next year in your *Geometry* class build on topics that you have already learned in previous classes. Since many of you may have been away from these ideas for a period of time, you might need a refresher in order to be up to speed at the beginning of the course. We have chosen a selection of topics for you to cover during the summer. Please understand that they are not all the areas that we will expect you to know.

Do all work for these problems on a separate sheet of paper in PENCIL. Anything written on the packet will not be graded. Work for each problem must be in chronological order. Just an answer is not sufficient for most problems and will count as a wrong answer. If you are unfamiliar with a term or type of problem, refer back to your notes or go online to the various help sites for mathematics (see below). The skills covered are part of the foundation for your course. Mastery of these skills is assumed.

Have this work ready for the first day of class. This packet will be collected. You will be graded on the number of problems you completed. At the end of the first week, you will be tested on this review material.

NO CALCULATORS OF ANY KIND MAY BE USED FOR MOST PROBLEMS IN THIS PACKET.

ONLY problems 172-175 may require a calculator.

We look forward to working with you next year!

Free Online math help sites:

www.math.com/homeworkhelp/Algebra.html

<http://www.algebra-help.info/>

<http://www.algebrahelp.com/>

Find each product.

1. $(-6)(3)$ 2. $(-3)(-1)$ 3. $(-7)(-3)$ 4. $(-5)(10)$ 5. $(-8)(-4)$

Find each quotient.

6. $-56 \div -8$ 7. $-12 \div -4$ 8. $18 \div 2$ 9. $8 \div -1$ 10. $30 \div 5$ 11. $-54 \div 9$

Evaluate each expression. Problems with fractions must have answers with fractions (no decimal answers) where applicable.

12. $\left(-2\frac{2}{5}\right) + \left(-\frac{1}{2}\right)$ 13. $2 - \left(-\frac{4}{3}\right)$ 14. $\frac{9}{5} - \left(-\frac{1}{5}\right)$ 15. $\left(\frac{-3}{4}\right) - \frac{10}{7}$
16. $(-1) + \left(-3\frac{1}{2}\right)$ 17. $2\frac{1}{8} - 4\frac{1}{3}$ 18. $3\frac{5}{6} + (-2) - 4\frac{7}{8}$ 19. $\left(-1\frac{3}{5}\right) - \frac{4}{7} + 8\frac{5}{6}$
20. $\left(-2\frac{2}{5}\right) + 4\frac{4}{5} - \frac{3}{4}$ 21. $\left(-3\frac{3}{4}\right) + \frac{2}{3} + \frac{1}{3}$

Find each product.

22. $\left(-2\frac{3}{8}\right)\left(5\frac{5}{9}\right)$ 23. $\left(1\frac{3}{5}\right)\left(-1\frac{5}{9}\right)$ 24. $(2)\left(-\frac{9}{10}\right)$ 25. $\left(5\frac{8}{9}\right)\left(-\frac{11}{8}\right)$
26. $\left(-2\frac{1}{2}\right)\left(1\frac{7}{8}\right)$ 27. $\left(-2\frac{3}{7}\right)\left(4\frac{6}{7}\right)$

Find each quotient.

28. $3\frac{5}{6} \div 2\frac{3}{7}$ 29. $\frac{3}{2} \div 1\frac{5}{8}$ 30. $2\frac{2}{3} \div 5\frac{6}{7}$ 31. $\frac{-14}{9} \div -2\frac{5}{6}$ 32. $\frac{-2}{1\frac{1}{6}}$ 33. $\frac{-2\frac{3}{10}}{-2}$

Simplify each expression.

34. $(5a^3 + a^4) + (8a^3 + 3a^4)$ 35. $(7v^3 + 5) - (3v^3 - 7)$ 36. $(3 + 5n^2) - (4n^2 - 4)$

Simplify. Your answer should contain only positive exponents.

37. $4k^2 \cdot 2k^2$ 38. $4a^2 \cdot a^4$ 39. $6x \cdot 2x$ 40. $7p^3 \cdot 2p^4$

Find each product.

41. $7(7x - 5)$ 42. $2(5x + 7)$ 43. $4n(4n - 6)$ 44. $6(2k + 6)$ 45. $4p^2(8p + 2)$
46. $3x(5x - 2)$ 47. $(6n + 4)(5n + 1)$ 48. $(3m - 1)(2m - 4)$ 49. $(2r + 6)(r - 8)$

Factor each completely.

50. $x^2 + 7x$ 51. $r^2 + 4r - 60$ 52. $x^2 - 17x + 72$ 53. $n^2 + 4n - 32$ 54. $n^2 + 2n$
55. $b^2 - 4b + 3$ 56. $2a^2 + 7a - 9$ 57. $2n^2 + 25n + 50$ 58. $4r^2 - 12r$ 59. $4n^2 + 4n$

Evaluate each expression.

60. $(-5)(-9) - 9 - 5$ 61. $\frac{15}{-3} - ((-5) - (-10))$ 62. $((6)((-10) + 9))(-8)$
63. $(10 + 4)((-8) + 10)$ 64. $(-6)((-3) + 9 - (-7))$ 65. $\frac{14}{-7} - \left(\frac{-27}{-9}\right)$

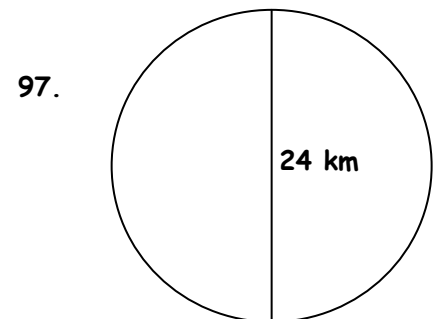
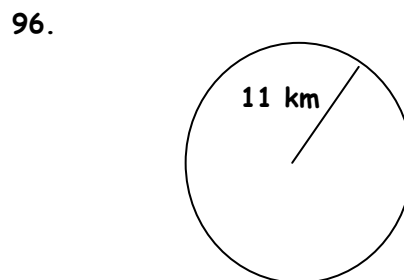
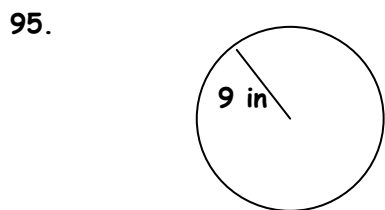
Write the name of each decimal place indicated.

66. 3.26347 67. 9.68 68. 199.07 69. 750.321 70. 4.9903

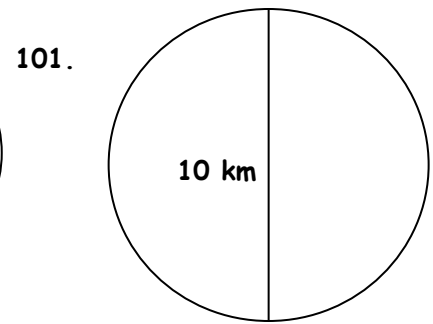
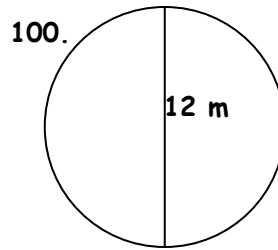
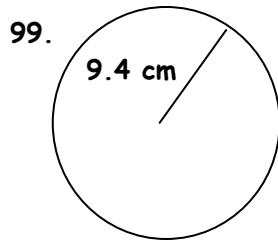
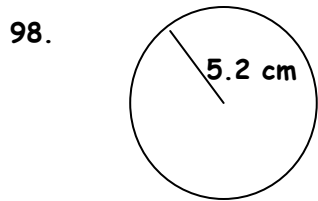
Solve each equation.

71. $-23 = -10 + b$ 72. $\frac{n}{2} = 11$ 73. $v + 10 = 25$ 74. $1 = x - 2$
75. $\frac{k}{15} = 12$ 76. $-2 - 9b = -128$ 77. $-18 = 2n - 6$ 78. $-x - 3 = 15$
79. $30 = 6 + 8r$ 80. $11 = \frac{n+7}{2}$ 81. $-6 = \frac{-2+a}{2}$ 82. $-6a + 2(3a + 4) = 6$
83. $-2 - 4(-5v + 6) = -6$ 84. $-7(-5 + 8x) = 35$ 85. $-40 = -(1 + 7x) - 6x$
86. $-72 = 3(-6n - 6)$ 87. $-k - 5(k - 6) = -12$ 88. $3 = -3(1 - 6p) + 6$
89. $25 + 5x = -2(1 - 7x)$ 90. $-3n + 17 = 4 - (n - 7)$ 91. $-2 - 2m = -4(m + 1)$
92. $-19 + 3r = -7(2r - 7)$ 93. $6(4x - 5) = 27 + 5x$ 94. $3(7n - 4) = 8n + 40$

Find the area of each. Round to the nearest tenth.



Find the circumference of each circle. Round to the nearest tenth.



Find each square root. You will be expected to know the perfect squares of 1 through 20.

102. $\sqrt{64}$

103. $\sqrt{49}$

104. $\sqrt{100}$

105. $\sqrt{36}$

106. $\sqrt{4}$

107. $\sqrt{256}$

108. $\sqrt{169}$

109. $\sqrt{16x^4}$

110. $\sqrt{\frac{25}{9}}$

111. $\sqrt{289}$

Write each as a fraction.

112. 7%

113. 62.5%

114. 350%

115. 6.375%

116. 22%

Write each as a percent.

117. $\frac{1}{6}$

118. $14\frac{2}{9}$

119. $5\frac{2}{3}$

120. $\frac{5}{6}$

121. $\frac{5}{8}$

Perform the following conversions:

122. 16 ft. = _____ yd.

123. 170 mm. = _____ m.

124. 5280 yd. = _____ mi.

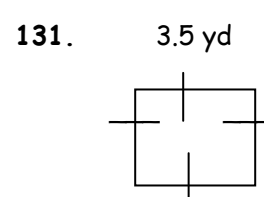
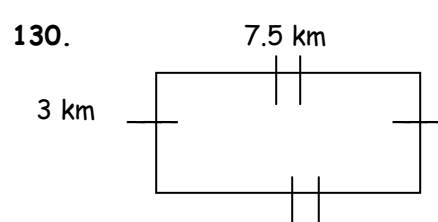
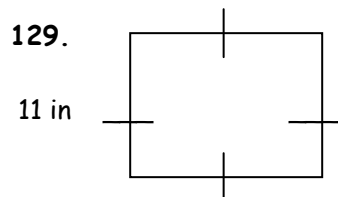
125. 580 mL = _____ L.

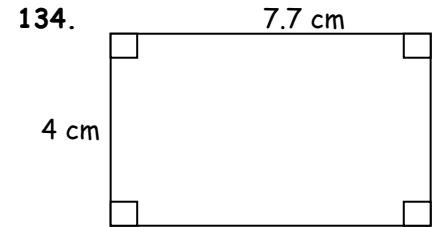
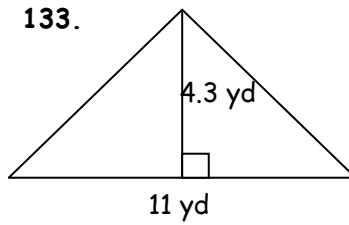
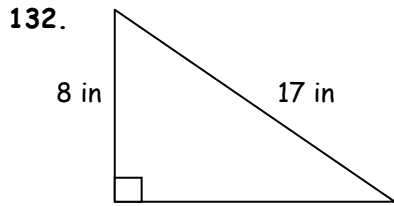
126. 6 qt. = _____ c.

127. 3 gal. = _____ qt.

128. 270 g. = _____ kg.

Find the perimeter and area of each figure:





135. A rectangle with length 7 meters and width 11 meters.

136. A square with length 4.5 inches.

137. A rectangular sandbox with length 2.4 meters and width 1.6 meters.

Graph the following sets of ordered pairs on the Cartesian Coordinate System provided:

138. $(-3, 4)$

139. $(2, -3)$

140. $(-6, 0)$

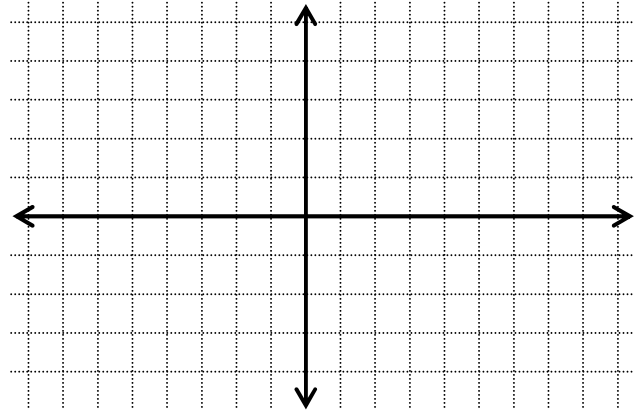
141. $(-3, -1)$

142. $(0, -2)$

143. $(5, 3)$

144. $(4, 0)$

145. $(0, 5)$



Find the slope of the line passing through the pairs of points below.

146. $(6, -7)$ and $(1, 5)$

147. $(5, -2)$ and $(5, 4)$

148. $(-8, 5)$ and $(-7, 5)$

149. $(-6.1, 4.5)$ and $(.5, -3.2)$

150. $\left(\frac{1}{2}, \frac{2}{3}\right)$ and $\left(\frac{-3}{2}, \frac{1}{3}\right)$

Find the slope (m) and the y intercept (b) of each line.

151. $y = x + 1$

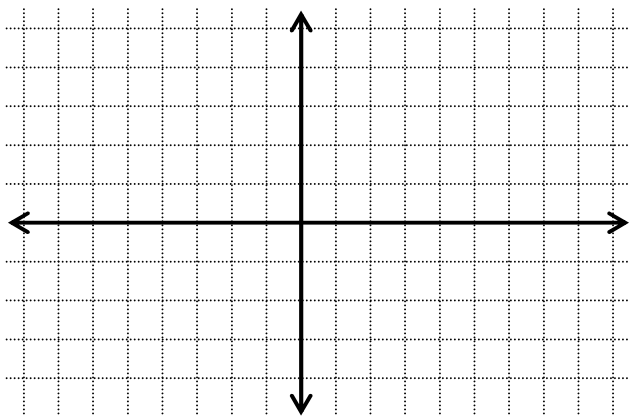
152. $y = \frac{1}{2}x - 2$

153. $2x + y = 3$

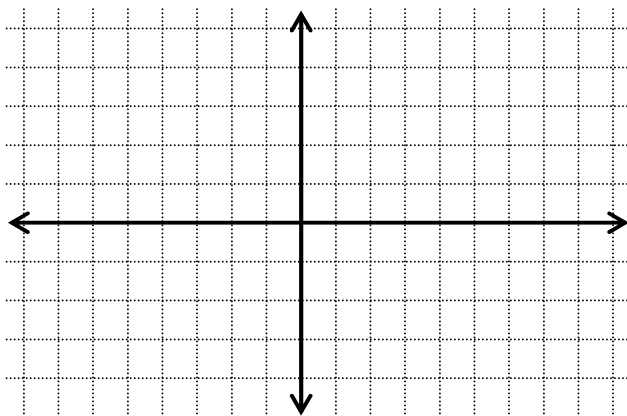
154. $7x - 2y = -6$

Sketch the graph of each line.

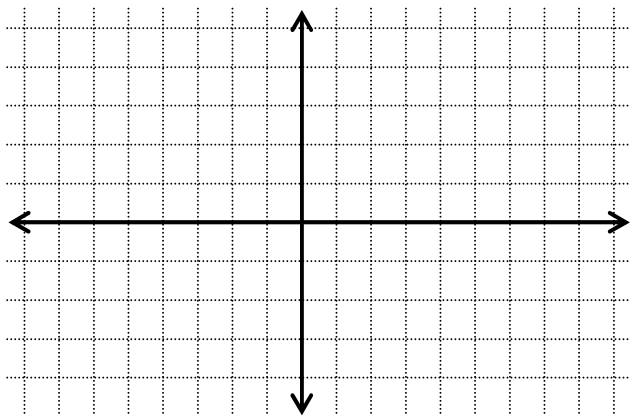
155. $y = -\frac{3}{4}x + 1$



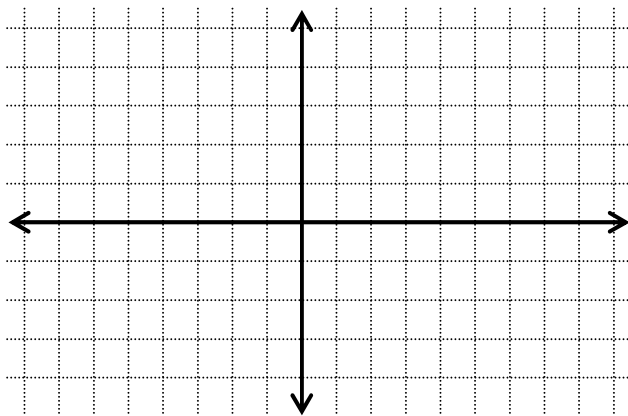
156. $3x - y = 3$



157. $x = -4$



158. $2x - 3y = 6$



Find the midpoint of the line segment and the distance between the given points.

159. $(-7, 9), (9, 9)$

160. $(-10, -9), (-5, -1)$

161. $(-4, -3), (-5, -1)$

162. $(0, -6), (9, -4)$

Evaluate each using the values given.

163. $x^2 + y$; use $x = 5$ and $y = 2$

164. $p^2 - q$; use $p = 2$ and $q = 2$

165. $a + b - b$; use $a = 5$ and $b = 6$

166. $f - h \div 2$; use $h = 2$ and $f = 5$

167. $-2(x - h) - 3$; use $x = 4$ and $h = -5$

168. How old am I if 400 reduced by 4 times my age is 125?

169. Shawna sold half of her comic books and then bought five more. She now has 18. With how many did she begin?
170. The sum of three consecutive even numbers is 84. What are the smallest of these numbers?
171. Matt bought a magazine for \$5 and two candy bars. He spent a total of \$11. How much did each candy bar cost?

The following is the only sections in which you may use a calculator.

Find the missing length to the nearest tenth.

