Oklahoma Christian School
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Summer Assignment 2022 for Geometry Students

Dear Geometry Student,

Welcome to Geometry, where you will explore various concepts of two-dimensional and three-dimensional figures, direct and indirect proofs, trigonometry, and so much more. This class will push you and expand on your knowledge of Algebra I as well as review Geometry concepts taught in Middle School.

As a student in Geometry, **you are expected to complete the summer math packet with work shown prior to the first day of fall semester of 2022**. The packet can be found on the OCS website under High School> Documents and Forms> Summer 2022 Math Prep - Geometry

Please know that you are responsible for bringing the completed packet(with work shown) to class.

You may use any of the additional resources that are provided below to supplement or relearn topics. You may ask clarification questions before a **review test**. Please make sure to read through every topic thoroughly and use the recommended additional resources for extra practice.

Thank you so much, and I look forward to seeing you on the first day!

Video Help:

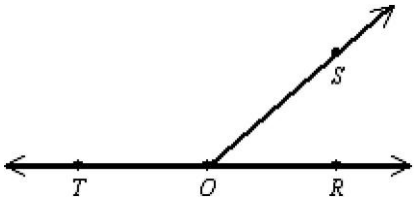
- Krista King Math
- Khan academy
- YouTube

Worksheets/practice problems:www.ixl.com/math
www.kutasoftware.com

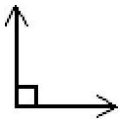
Name:_____ **Class:**_____ **Date:** _____ **ID: A**

Geometry Summer Math

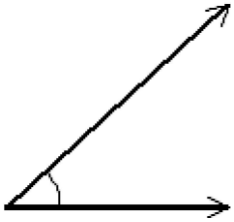
1. If angle *ROS* is acute and angle *TOR* is straight, then angle *TOS* is what kind of angle?



2. Classify the angle as right, acute, or obtuse.



3. Classify the angle as right, acute, or obtuse.



4. Classify the angle as right, acute, or obtuse.

5. The measure of angle *D* is 104°. Classify angle *D* as an acute, right, or obtuse angle
.

6. Write a definition for supplementary angles.

.

7. Define complementary angles.

.

8. Complementary angles are two angles whose measures add to 90°. The ratio of the measures of two complementary angles is 2:3. What are the measures of the angles?

9. If $\angle R$ and $\angle S$ are complementary angles and $m\angle R = 36°$, then $m\angle S =$ _____

10. If $\angle G$ and $\angle H$ are supplementary and $m\angle H = 116°$, then $m\angle G =$_____.

.

11. Name a polygon with 3 sides.

12. Find the perimeter and area of a rectangle with length 200 ft and width 60 ft.

.

13. A wooden fence is to be built around a 24 m-by-62 m lot. How many meters of fencing will be needed? If the wood for the fence costs $48.00 per meter, what will the wood for the fence cost?

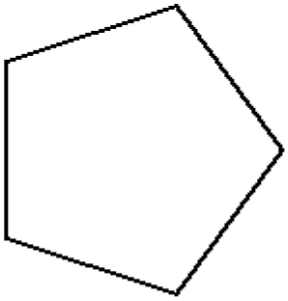
    .

14. Find the perimeter and area of a rectangle with length 225 ft and width 45 ft.

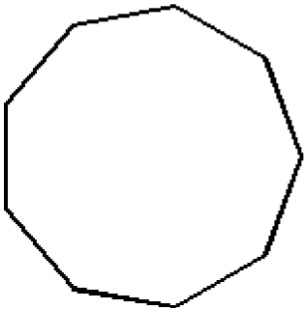
    .

15. Henry wants to use 48 feet of fencing to enclose part of his yard for a garden. Which of the figures described would use all 48 feet of fencing and enclose the largest area of Henry's yard?
    a. A rectangle with a length of 14 feet and a width of 10 feet
    b. A rectangle with a length of 16 feet and a width of 8 feet
    c. A square with a side length of 12 feet
    d. A circle with a radius of about 7.6 feet

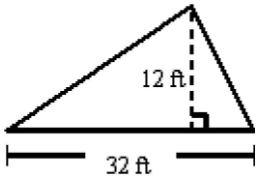
16. Name the regular polygon.



17. Name the regular polygon.



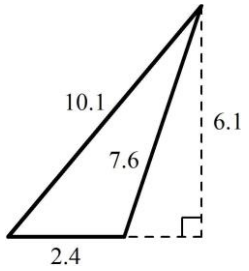
18. Find the area:



19. Find the area of a triangle with the given information.
    $A = 40\,\text{m}^2$, $b =$_____, $h = 10\,\text{m}$

20. Find the area of a triangle with the given information.
    $A = 15\,\text{ft}^2$, $b = 5\,\text{ft}$, $h =$ _____

21. Find the area. All lengths are in centimeters.



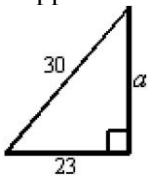
22. Find the area of a rectangle that measures 6 yd by 25 yd.

    .

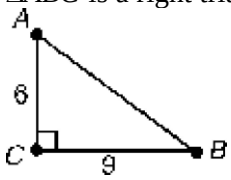
23. Find the area of a square with side length 5 m.

    .

24. Find the length of the leg of this right triangle. Give an approximation to 3 decimal places.



25. ΔABC is a right triangle. AB =_____.



26. How long is a string reaching from the top of a 10-ft pole to a point on the ground that is 5 ft from the base of the pole?

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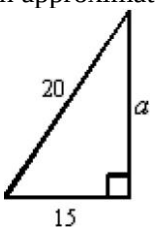
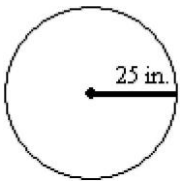
27. Find the length of the leg of this right triangle. Give an approximation to 3 decimal places.



28. Find the circumference of the circle.



29. Find the area of a circle with radius 49 cm.

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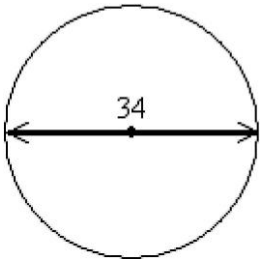
30. Find the area and circumference of the circle.



31. Find the distance between the points (2, –2) and (0, 5)

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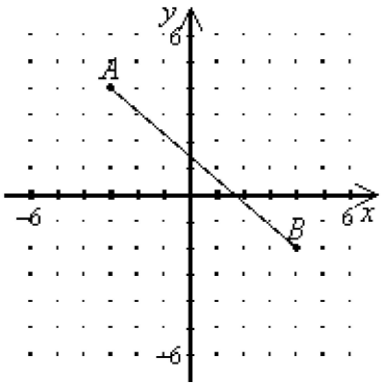
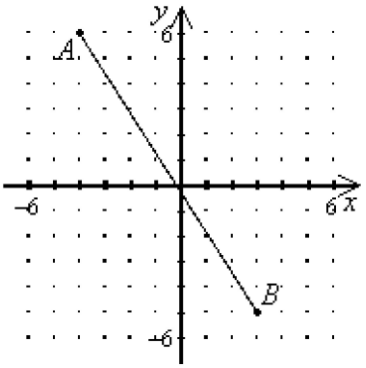
32. The distance between points A and B is_____.



33. Find the length of $\overline{AB}$.



34. Find the midpoint of the segment with endpoints (7, 9) and (–8, 5)

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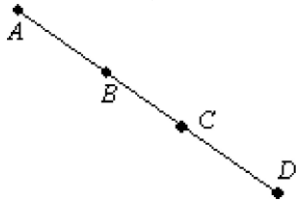
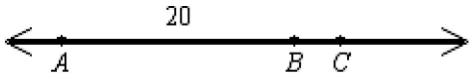
35. Find *AB* and *BC* in the situation shown below.

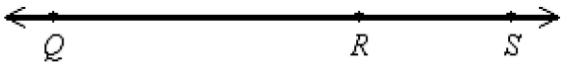
AB* = 2*x* + 17, *BC* = 5*x* – 10, *AB* = *BC



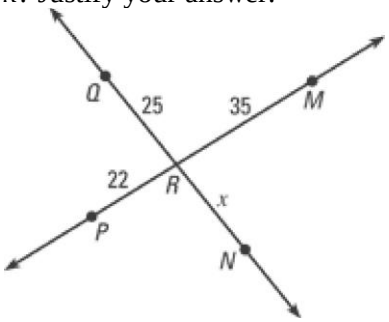
36. If *AB* = 20 and *AC* = 24, find the length of $\overline{BC}$.



37. If *RS* = 30.3 and *QS* = 90.6, find *QR*.



38. a. What is the exact distance between *P* and *M*? Explain.
b. If the distance between *Q* and *N* is 42, what is *x*? Justify your answer.
c. If the distance between *Q* and *N* is 3.5*x*, what is *x*? Justify your answer.



39. Solve $\frac{3}{6}b = 62$

.

40. Solve $\frac{i}{36} - \frac{3}{9} = \frac{4}{9}$

.

41. Solve $32d + 6 - 5d = 33$

.

42. The formula $p = nc - e$ gives the profit *p* when a number of items *n* are each sold at a cost *c* and expenses *e* are subtracted. If $p = 6900$, $n = 4000$, and $e = 500$, what is the value of *c*?

.

43. Solve $46q - 24 = 68q - 90$

.

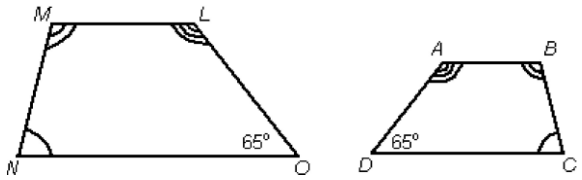
44. Solve $10g + 4 - 9g = -6 + g + 20$. Tell whether the equation has infinitely many solutions or no solutions.

45. Solve $9g + 2 - 5g = 2 + 4g + 10$. Tell whether the equation has infinitely many solutions or no solutions.

Name: _____ **ID: A**

46. Solve the proportion $\frac{1}{8} = \frac{x}{56}$

47. Find the value of *MN* if *AB* = 18 cm, *BC* = 14.4 cm, and *LM* = 24 cm.
ABCD ~ *LMNO*



48. On a sunny day, a 2-foot red kangaroo casts a shadow that is 3 feet long. The shadow of a nearby eucalyptus tree is 6 feet long. Write and solve a proportion to find the height of the tree.

49. Simplify $(-3)^{-4}$

50. Simplify $(-3)^{0}$

51. Evaluate $a^{-2}b^{0}$ for $a = 3$ and $b = 3$

52. Simplify $\frac{-3w^{0}r^{-5}}{t^{-8}}$

53. Simplify $(-5) \cdot (-5)^{2}$

54. Simplify $(x^{2})^{-5}x^{2}$

55. Simplify $\frac{6^{3}}{6^{2}}$

56. Simplify $\frac{q^{4}y^{9}}{(qy)^{3}}$

.

57. Simplify $\left(\frac{2x^{7}}{x^{2}y^{2}}\right)^{4}$

.

58. Simplify $\left(\frac{3}{4}\right)^{-2}$

.

59. Add or subtract.
$z^{2} + 4z^{3} - 13z^{2} - 3z^{3}$

60. Multiply.
$(m+2)(m+5)$

61. Multiply.
$(m+3)(m+1)$

62. Multiply.
$(6x+5y)^2$

63. Multiply.
$(d-9)^2$

64. Find the GCF of 40 and 90

65. Find the GCF of $2g^2$ and $24g^4$

66. Factor $7(y-5)-8y(y-5)$

67. Factor $15x^3-6x^2-25x+10$

68. Factor $4x^3-16x^2+12-3x$

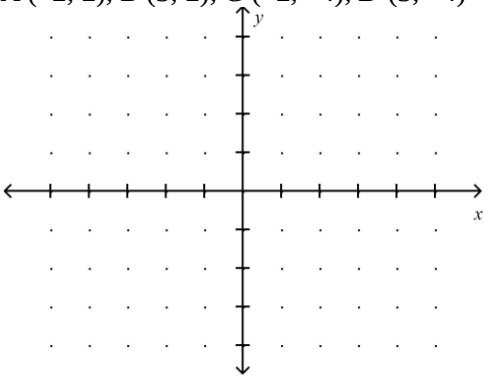
69. Factor $a^2+11a+28$

70. Factor the trinomial p^2+2p-8.

71. Factor $3x^2+17x+10$

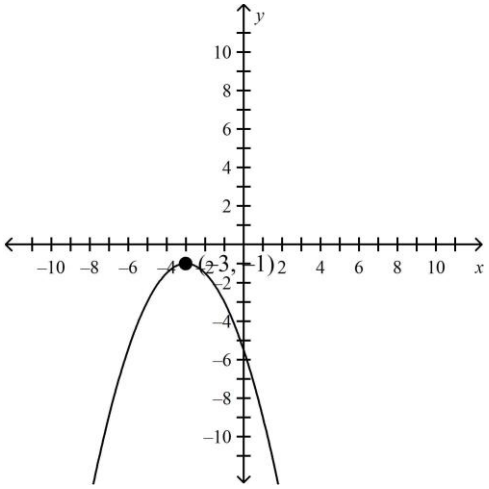
72. Factor $3x^2+14x+15$

73. a. Plot the following points in a coordinate plane:
A (–2, 2), *B* (3, 2), *C* (–2, –4), *D* (3, –4)

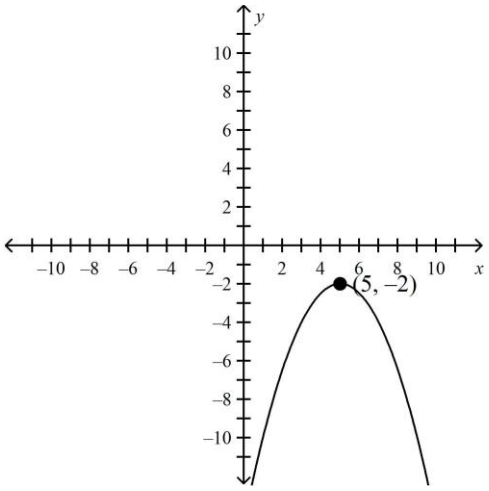


74. Tell whether the graph of the quadratic function $y=9x^2-9x+5$ opens upward or downward. Explain your answer.

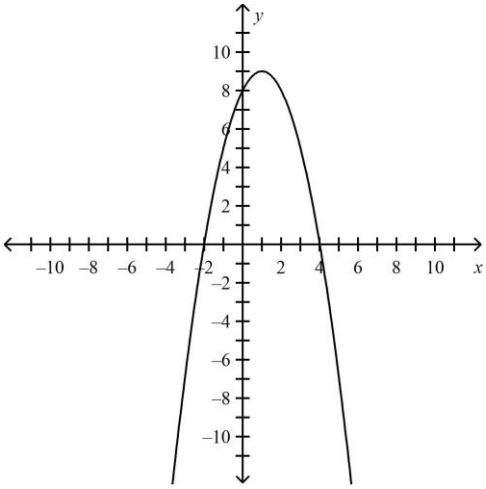
75. Identify the vertex of the parabola. Then give the minimum or maximum value of the function.



76. Find the domain and range.



77. Find the zeros of the quadratic function $f(x) = -x^2 + 2x + 8$ from the graph.



78. Simplify the expression $\sqrt{\frac{50}{128}}$

79. Simplify $\sqrt{\frac{54}{49}}$

80. Subtract.
$9\sqrt{5} - 2\sqrt{5}$

81. Simplify the expression $\sqrt{12y} + 4\sqrt{75y} - \sqrt{27y}$

82. Find the perimeter of a triangle whose side lengths are 10 cm, $5\sqrt{5}$ cm, and $\sqrt{20}$ cm. Give the answer as a radical expression in simplest form.

83. Multiply. Write the product in simplest form.

$\sqrt{4h}\sqrt{14h}$

84. Multiply. Write the product in simplest form.

$\sqrt{7}\left(\sqrt{8} + \sqrt{9}\right)$

85. Multiply $\left(\sqrt{3} - 9\right)^2$. Write the product in simplest form.

86. Simplify the quotient $\frac{\sqrt{y}}{\sqrt{11}}$

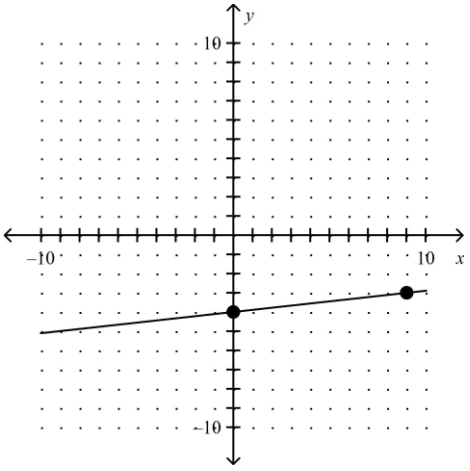
87. Solve the equation $\sqrt{b} = 14$

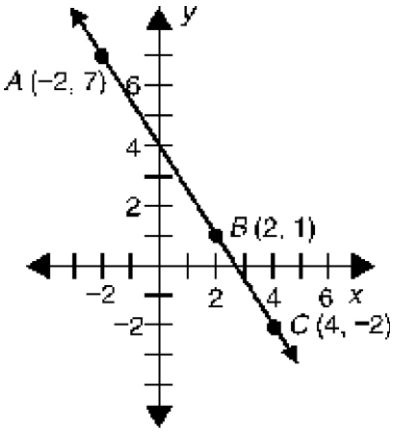
88. Solve the equation

89. Solve the equation $8\sqrt{x} = 72$

90. Find the slope of the line passing through the points $A(-6, 2)$ and $B(-1, -4)$

91. Find the slope of the line.





15 92. Calculate the slope of the line. Does it matter which points are used? Why or why not?

93. Find the slope of a line parallel to the line containing the points (7, –7) and (5, 4)

.

94. Find the slope of a line perpendicular to the line containing the points (9, –2) and (–2, –3)

.

95. Write an equation that is parallel to $y = \frac{2}{3}x - 7$

96. Write an equation that is perpendicular to $y = -\frac{1}{2}x + 3$

97. Write an equation for the line passing through the point $(7, -3)$ that has a slope of –4.

.

98. Find the slope-intercept form of the line passing through the point $(8, 2)$ and parallel to the line $y = -4x - 2$

.

99. Write an equation in slope-intercept form for the line perpendicular to $y = -9x - 5$ that passes through the point (5, –5)

.

100. Graph the equation $5x - 7y = -35$