

Honors Algebra 2 Summer Assignment

Date _____ Period _____

This assignment is for students who have completed Geometry and are taking Algebra 2 Honors in the 2019-2020 school year.

1) Did you read the instructions?

2) What math class are you taking in the 2019-2020 school year?

Simplify.

3) $\sqrt{98}$

4) $\sqrt{405}$

5) $5\sqrt{225}$

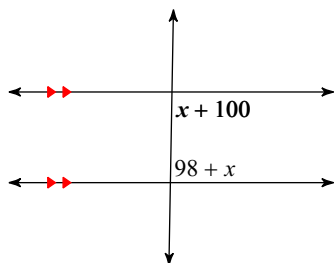
6) $5\sqrt{360}$

7) $4\sqrt{98}$

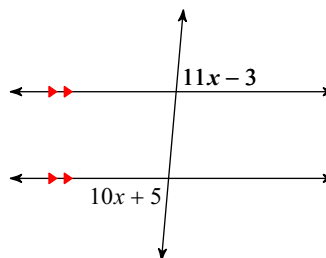
8) $3\sqrt{32}$

Find the measure of the angle indicated in bold.

9)



10)

**Find the distance between each pair of points.**

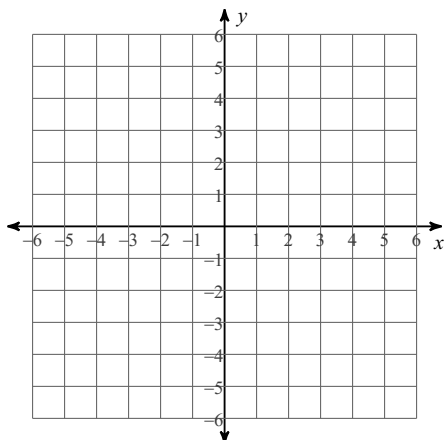
11) $(-7, -4), (-8, -2)$

Find the midpoint of the line segment with the given endpoints.

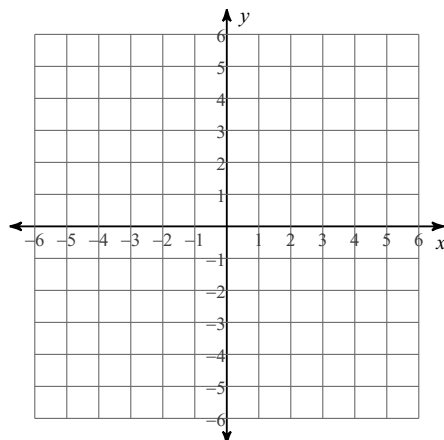
12) $(2, 9), (4, 7)$

Sketch the graph of each line.

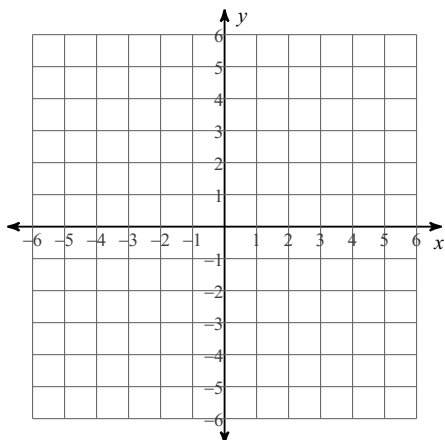
13) $y = -2x - 4$



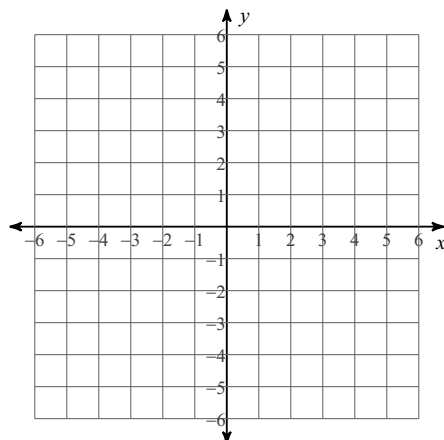
14) $-5y = -x - 15$



15) $0 = 2 - y + x$

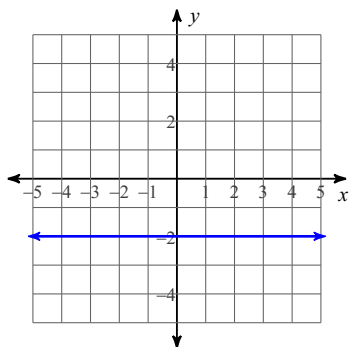


16) $-3x + 3 = 0$

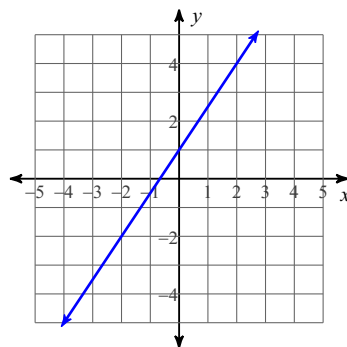


Write the slope-intercept form of the equation of each line.

17)



18)



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

19) through: $(4, 0)$, parallel to $y = -\frac{3}{8}x + 1$

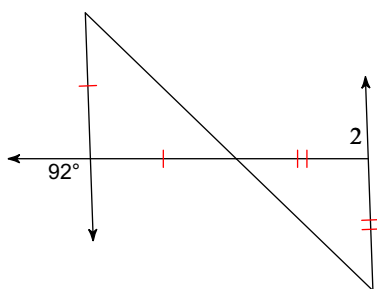
20) through: $(1, -5)$, parallel to $y = -6x$

21) through: $(-4, -1)$, perp. to $y = \frac{1}{3}x - 5$

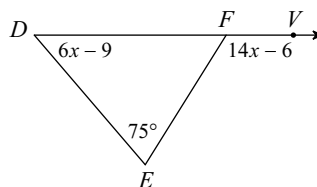
22) through: $(-2, 2)$, perp. to $y = \frac{1}{2}x + 5$

Solve for x .

23) $m\angle 2 = 12x - 8$



24)



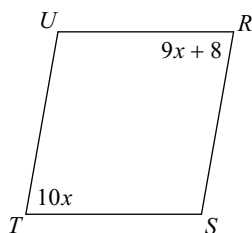
State if the three numbers can be the measures of the sides of a triangle.

25) 6, 10, 12

26) 6, 20, 11

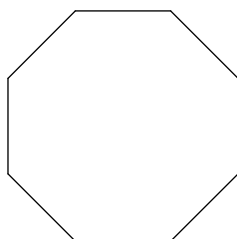
Solve for x . The figure is a parallelogram.

27)



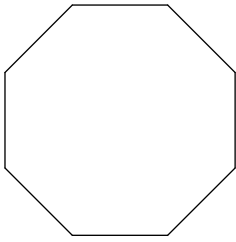
Find the measure of one interior angle in the regular polygon. Round your answer to the nearest tenth if necessary.

28)



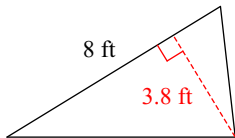
Find the measure of the exterior angle in each regular polygon. Round your answer to the nearest tenth if necessary.

29)

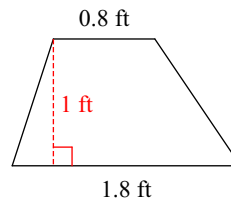


Find the area of each. Round to the nearest tenth if necessary.

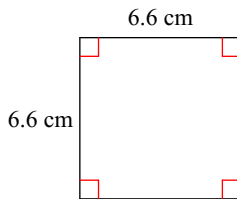
30)



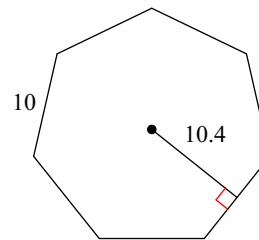
31)



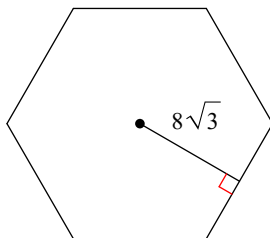
32)



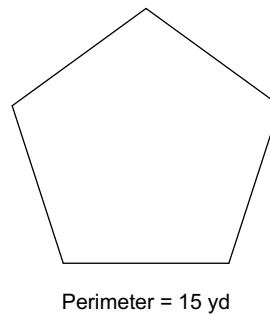
33)



34)

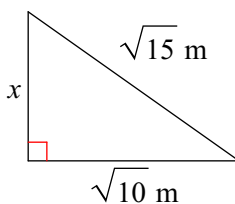


35)



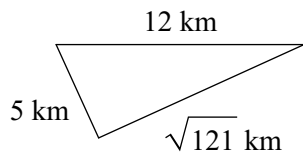
Find the missing side of the triangle. Leave your answers in simplest radical form.

36)



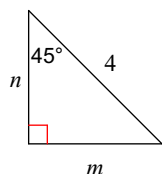
State if the triangle is acute, obtuse, or right.

37)

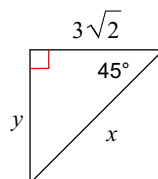


Find the missing side lengths. Leave your answers as radicals in simplest form.

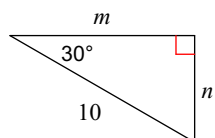
38)



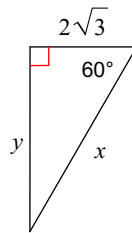
39)



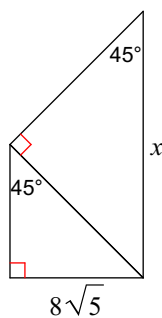
40)



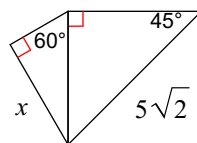
41)



42)

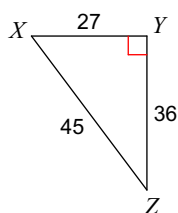


43)

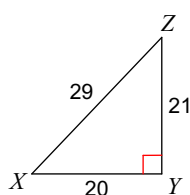


Find the value of each trigonometric ratio.

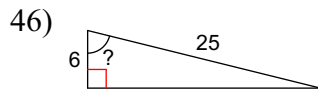
44) $\cos Z$



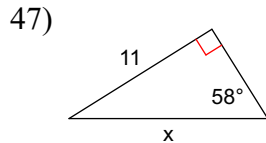
45) $\tan X$



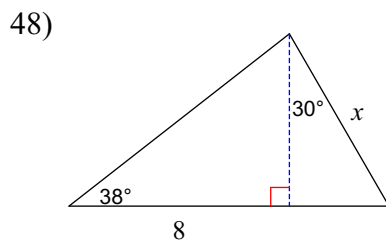
Find the measure of the indicated angle to the nearest degree.



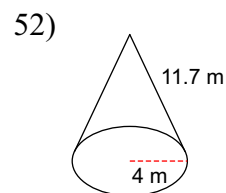
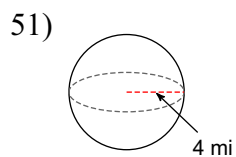
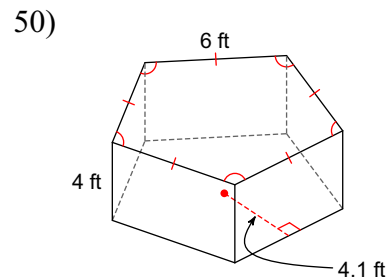
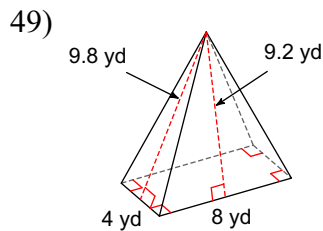
Find the missing side. Round to the nearest tenth.



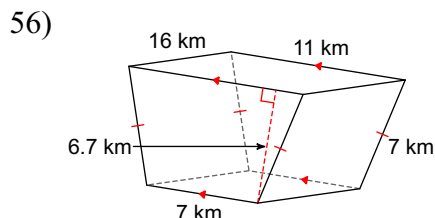
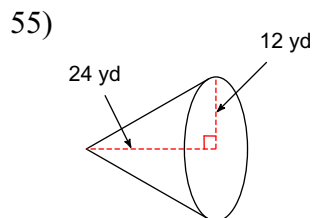
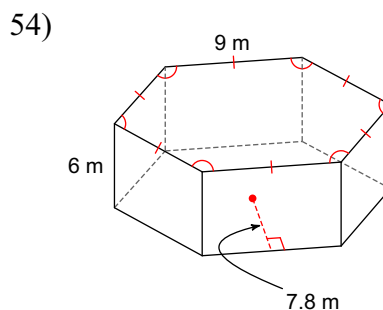
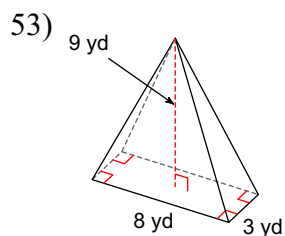
Find the length of the side labeled x . Round intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round your final answer to the nearest tenth.



Find the surface area of each figure. Round your answers to the nearest hundredth, if necessary.



Find the volume of each figure. Round your answers to the nearest hundredth, if necessary.

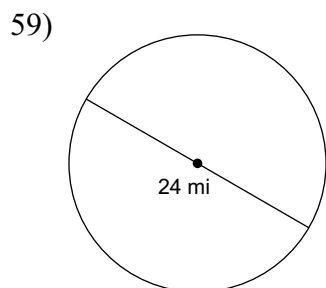


Some information about the surface area and volume of two similar solids has been given. Find the missing value.

57) Solid #1 Solid #2
 $SA = 960 \text{ in}^2$ $SA = 135 \text{ in}^2$
 $V = 12288 \text{ in}^3$ $V = ?$

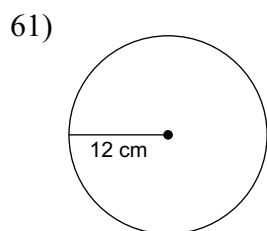
58) Solid #1 Solid #2
 $SA = 272 \text{ yd}^2$ $SA = ?$
 $V = 1920 \text{ yd}^3$ $V = 240 \text{ yd}^3$

Find the area of each. Use your calculator's value of π . Round your answer to the nearest tenth.



60) circumference = 43.4 mi

Find the circumference of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.



62) area = 15.2 cm^2

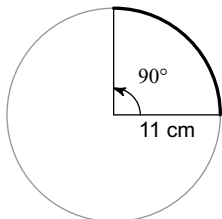
Find the radius of each circle. Use your calculator's value of π . Round your answer to the nearest tenth.

63) area = 60.8 mi^2

64) circumference = 12.6 km

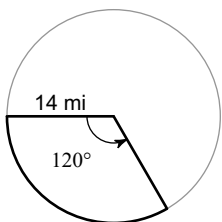
Find the length of each arc.

65)



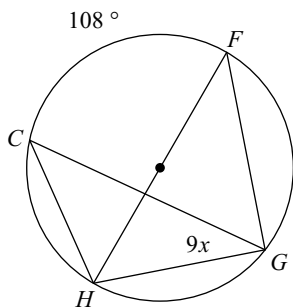
Find the area of each sector.

66)



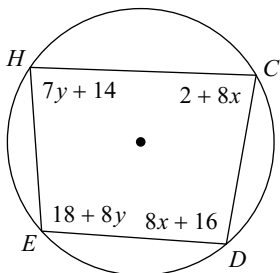
Solve for x .

67)



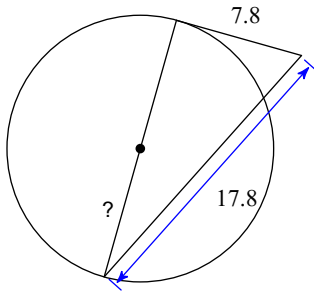
Solve for x and y .

68)



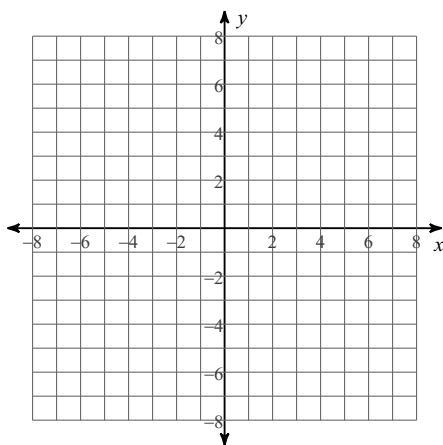
Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

69)



Identify the center and radius of each. Then sketch the graph.

70) $(x + 4)^2 + (y + 4)^2 = 1$



Use the information provided to write the equation of each circle.

71) Center: $(16, 7)$
Radius: 3

72) Ends of a diameter: $(12, -10)$ and $(18, -6)$