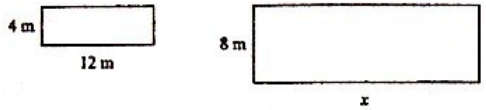
GEOMETRY 2ND SEMESTER REVIEW

DO NOT WRITE ON THIS REVIEW!

Multiple Choice
Identify the choice that best completes the statement or answers the question.

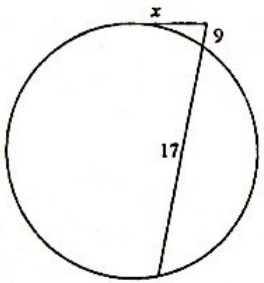
___ 1. The two rectangles are similar. Which is a correct proportion for corresponding sides?



a. $\frac{12}{8} = \frac{x}{4}$ b. $\frac{12}{4} = \frac{x}{8}$ c. $\frac{12}{4} = \frac{x}{20}$ d. $\frac{4}{12} = \frac{x}{8}$

Find the value of x. If necessary, round your answer to the nearest tenth. The figure is not drawn to scale.

___ 2.



a. 234 b. 21.02 c. 15.3 d. 12.37

Short Answer

Write the standard equation for the circle.

3. center $(4, -8)$, $r = 10$

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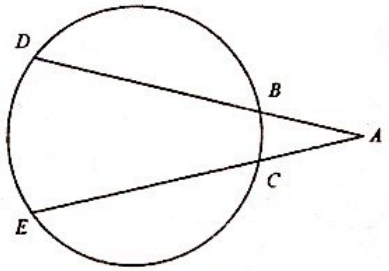
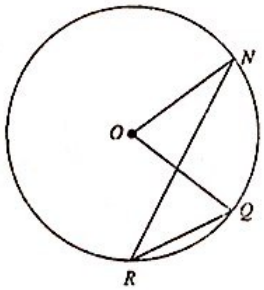
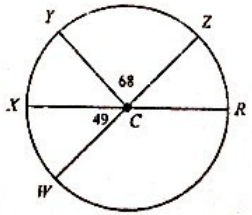
4. $m(\text{arc } DE) = 121$ and $m(\text{arc } BC) = 64$. Find $m\angle A$. (The figure is not drawn to scale.)



5. $m\angle R = 41$. Find $m\angle O$. (The figure is not drawn to scale.)

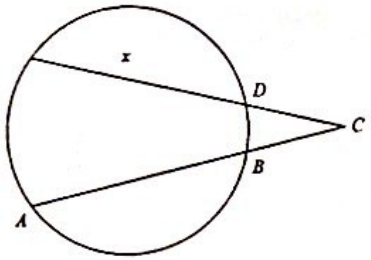


6. $\overline{WZ}$ and $\overline{XR}$ are diameters. Find the measure of arc ZWX. (The figure is not drawn to scale.)

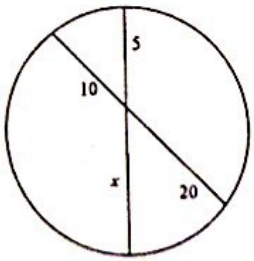


Find the value of x. If necessary, round your answer to the nearest tenth. The figure is not drawn to scale.

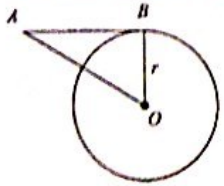
7. $AB = 14$, $BC = 7$, and $CD = 5$



8.

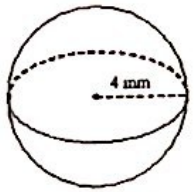


9. $\overline{AB}$ is tangent to circle O at B. Find the length of the radius r for $AB = 5$ and $AO = 8.2$. Round to the nearest tenth if necessary. The diagram is not to scale.



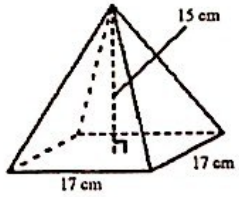
Find the volume of the sphere shown. Give each answer rounded to the nearest cubic unit.

10.



Find the volume of the square pyramid shown. Round to the nearest tenth as necessary.

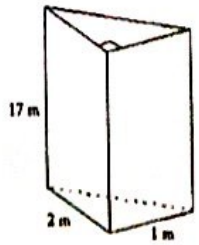
11.



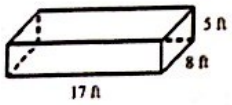
Not drawn to scale

Find the volume of the given prism. Round to the nearest tenth if necessary.

12.



13.



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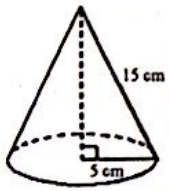
14. Find the surface area of the cone in terms of π.



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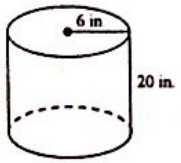
Find the surface area of the cylinder in terms of π.

15.



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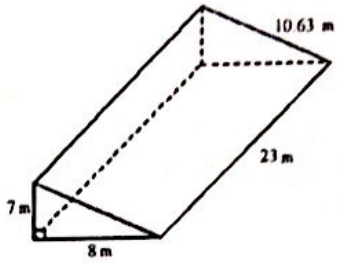
Use formulas to find the lateral area and surface area of the given prism. Show your answer to the nearest whole number.

16.



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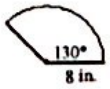
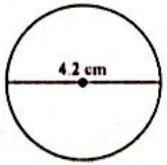
17. Find the area of the figure to the nearest tenth.



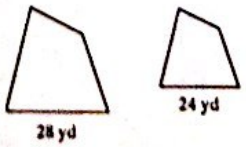
Find the circumference. Leave your answer in terms of π.

18.

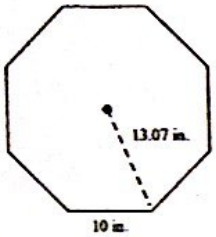


The figures are similar. Give the ratio of the perimeters and the ratio of the areas of the first figure to the second. The figures are not drawn to scale.

19.



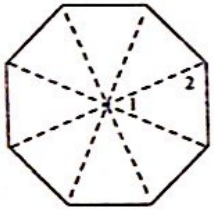
20. Find the area of the regular polygon. Round your answer to the nearest tenth.



21. Find the area of an equilateral triangle with side 12.

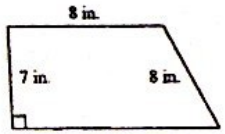
22. Find the area of a regular hexagon with an apothem 13 feet long and a side 15 feet long. Round your answer to the nearest tenth.

23. Given the regular polygon, find the measure of each numbered angle.



Find the area. The figure is not drawn to scale.

24.



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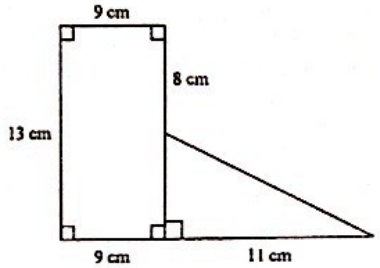
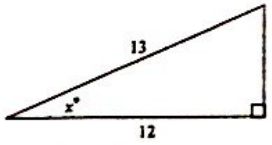
25.



26. Viola drives 3 kilometers up a hill that makes an angle of 4° with the horizontal. To the nearest tenth of a kilometer, what horizontal distance has she covered?

Find the value of x. Round to the nearest degree.

27.



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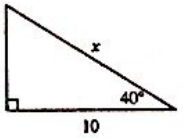
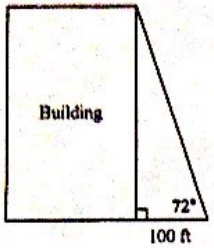
Find the value of x. Round to the nearest tenth.

28.

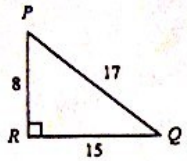


Not drawn to scale

29. The students in Mr. Collin's class used a surveyor's measuring device to find the angle from their location to the top of a building. They also measured their distance from the bottom of the building. The diagram shows the angle measure and the distance. To the nearest foot, find the height of the building.



30. Write the tangent ratios for $\angle P$ and $\angle Q$.



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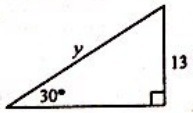
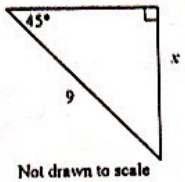
Find the value of the variable(s). If your answer is not an integer, leave it in simplest radical form.

31.



Not drawn to scale

32. Find the value of the variable. If your answer is not an integer, leave it in simplest radical form.

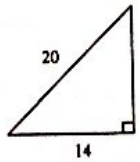


Not drawn to scale

33. A triangle has side lengths of 14 cm, 48 cm, and 50 cm. Classify it as acute, obtuse, or right.

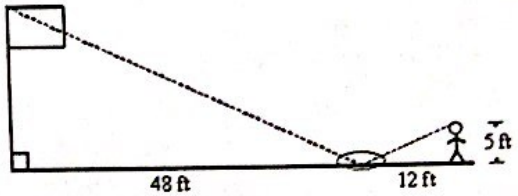
Find the length of the missing side. Leave your answer in simplest radical form.

34.

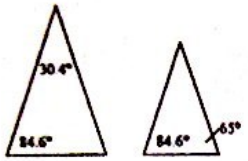


Not drawn to scale

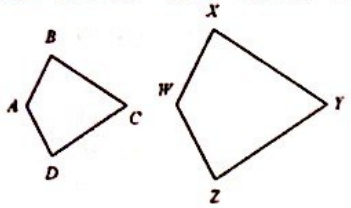
35. Michele wanted to measure the height of her school's flagpole. She placed a mirror on the ground 48 feet from the flagpole, then walked backwards until she was able to see the top of the pole in the mirror. Her eyes were 5 feet above the ground and she was 12 feet from the mirror. Using similar triangles, find the height of the flagpole to the nearest tenth of a foot.



36. Are the triangles similar? If so, explain why.

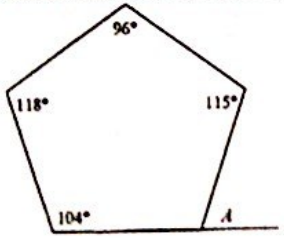


37. $ABCD \sim WXYZ$. $AD = 12$, $DC = 3$, and $WZ = 58$. Find YZ. The figures are not drawn to scale.



38. A model is made of a car. The car is 2 meters long and the model is 4 centimeters long. What is the ratio of the length of the car to the length of the model?

39. Find $m\angle A$. The diagram is not to scale.



40. Find the missing angle measures. The diagram is not to scale.