

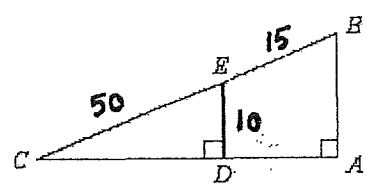
Geometry Final Review (Spring)

This review must be turned in the day of your final exam. I will not accept any reviews that are turned in late.

1 If  $\frac{2}{x-4} = \frac{3}{x}$ , then \_\_\_\_\_.

2 The geometric mean of 6 and 30 is \_\_\_\_\_.

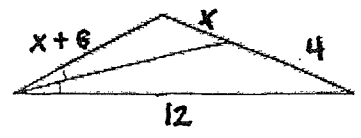
3 Given that  $\frac{ED}{BA} = \frac{EC}{BC}$ , find  $AB$  to the nearest tenth.  
 The figure is not drawn to scale.



4 The perimeter of a rectangle is 52. The ratio of the lengths of the sides is 6:7. What are the lengths of the sides?

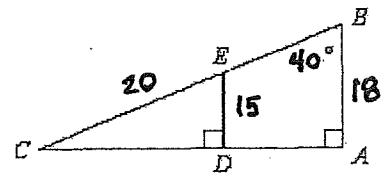
5 If two polygons are SIMILAR, then the corresponding sides must be \_\_\_\_\_.

6 What is the value of  $x$  in the figure shown?



7 If two polygons are SIMILAR, then the corresponding angles must be \_\_\_\_\_.

8 Use the figure to find  $m\angle CED$ . The figure is not drawn to scale.



9 The postulate or theorem that can be used to prove that the two triangles are similar is \_\_\_\_\_.

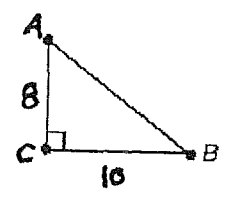
A) Reason \_\_\_\_\_

B) Reason \_\_\_\_\_

C) Reason \_\_\_\_\_

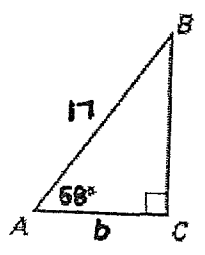
D) Reason \_\_\_\_\_

10  $\triangle ABC$  is a right triangle.  $AB =$  \_\_\_\_\_.

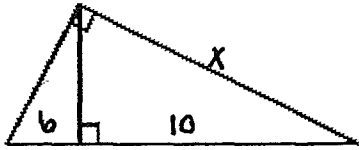


11 If the side lengths of a triangle are 5, 7, and 12, the triangle \_\_\_\_\_.

12 Find the value of  $b$  in  $\triangle ABC$ . Round to the nearest tenth.

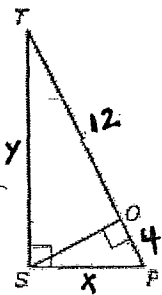


13 Find the value of  $x$ .



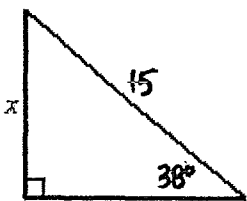
14 An equilateral triangle has side lengths of 20. The length of its altitude is \_\_\_\_\_.

15 Use the diagram to find the values of  $x$  and  $y$ .

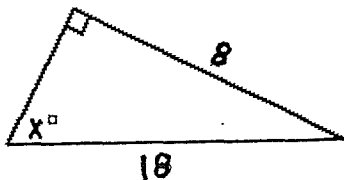


16 In a  $45^\circ-45^\circ-90^\circ$  triangle, the ratio of the length of the hypotenuse to the length of a side is \_\_\_\_\_.

17 What is  $x$  to the nearest hundredth? (not drawn to scale)



18 Solve for  $x$  to the nearest degree.



19 A regular polygon has an interior angle with a measure of  $150^\circ$ . How many sides does the polygon have?

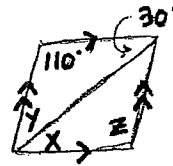
20 The measure of each exterior angle of a regular **decagon** is \_\_\_\_\_.

21 What is the sum of the exterior angles in a convex **13**-sided polygon?

22 The measure of each interior angle of a regular **pentagon** is \_\_\_\_\_.

23 The sum of the measures of the interior angles of a convex **heptagon** is \_\_\_\_\_.

24 Find the value of the variables in the parallelogram.



25 For parallelogram  $PQLM$  below, if  $m\angle PML = 88^\circ$ , then  $m\angle PQL =$  \_\_\_\_\_. \*Hint: Draw the // -gram.

26 Consecutive angles in a parallelogram are always \_\_\_\_\_.

27 Choose the statement that is NOT ALWAYS true. For any parallelogram \_\_\_\_\_.

- A) opp  $\angle$ s  $\cong$       C) opp. sides  $\cong$   
 B) All are true.      D) diagonals are  $\perp$

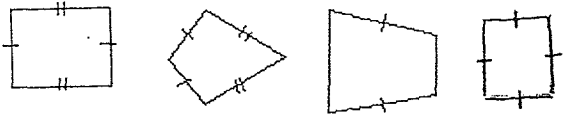
28 Which statement is true?

- A) All rectangles are squares.      C) All // -grams are quadrilaterals  
 B) All // -grams are quadrilaterals      D) All are true.

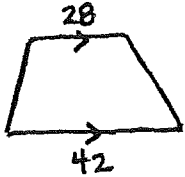
29 Choose the statement that is NOT ALWAYS true. For a rhombus \_\_\_\_\_.

- A) All 4 sides  $\cong$       C) All are true  
 B) each diagonal bisects a pair of opposite  $\angle$ s      D) diagonals are  $\cong$

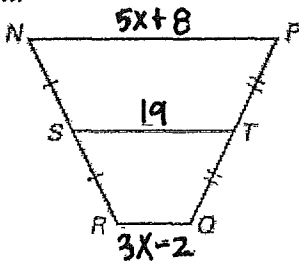
- 30 Choose the figure below which satisfies the definition of a kite, trapezoid, rectangle, and square.



- 31 For the trapezoid shown below, the measure of the midsegment is \_\_\_\_\_.



- 32  $NPQR$  is a trapezoid and  $ST = 19$ . Find the value of  $x$ .

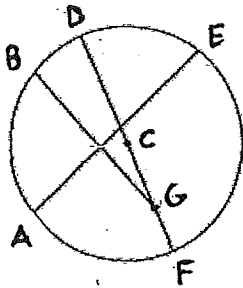


- 33 If all four sides of a quadrilateral are congruent, the quadrilateral is \_\_\_\_\_.

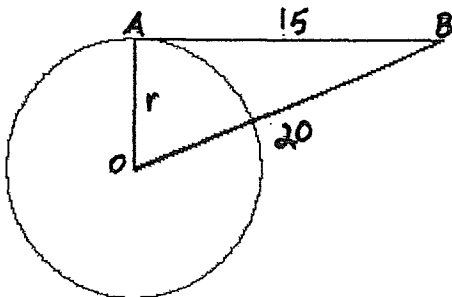
- 34 A segment with endpoints on a circle is a \_\_\_\_\_.

- 35 If a circle has a diameter of 14, then it has a radius of \_\_\_\_\_.

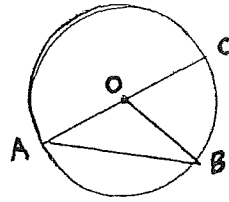
- 36 Identify two chords.



- 37 You are standing at point  $B$ . Point  $B$  is 20 feet from the center of the circular water storage tank and 15 feet from point  $A$ .  $AB$  is tangent to  $\odot O$  at  $A$ . Find the radius of the tank.



- 38 Given: In  $\odot O$ ,  $m\widehat{BAC} = 320^\circ$ . Find  $m\angle A$ .

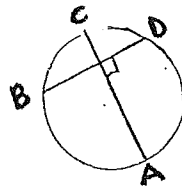


- 39 A wooden wagon wheel has 6 equally spaced spokes radiating from the central hub.

What is the measure of the angle that determines the separation between two adjacent spoke holes?

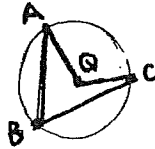
\* Draw a picture.

- 40 Given  $\overline{AC}$  bisects  $\overline{BD}$ , choose the true statement that refers to the figure.

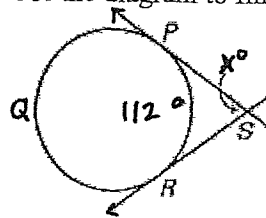


- A)  $\widehat{BCD}$  is a major arc. C)  $\overline{AC}$  is a diameter  
B)  $\widehat{BAD}$  is a minor arc. D) None.

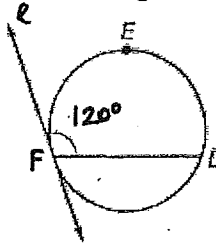
- 41 Given  $\odot Q$  and  $m\angle B = 58^\circ$ , find  $m\widehat{AC}$ .



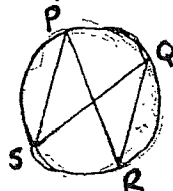
- 42 Use the diagram to find the value of  $x$ .



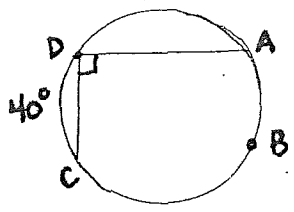
- 43 Use the diagram to find  $m\widehat{DEF}$ .



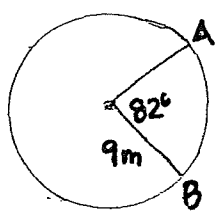
- 44 Find  $m\angle PSQ$  if  $m\angle PSQ = 4y - 5$  and  $m\angle PRQ = 2y + 19$ .



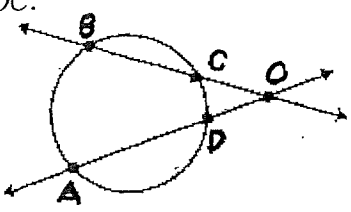
45 Use the diagram to find  $m\widehat{AD}$



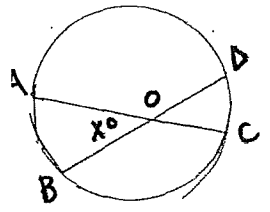
46 What is the length of  $\widehat{AB}$ ?



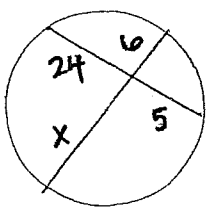
47  $m\widehat{AB} = 80^\circ$ ,  $m\widehat{CD} = 20^\circ$   
Find  $m\angle DOC$ .



48 Find the value of  $x$  if  $m\widehat{AB} = 42^\circ$  and  $m\widehat{CD} = 12^\circ$ .

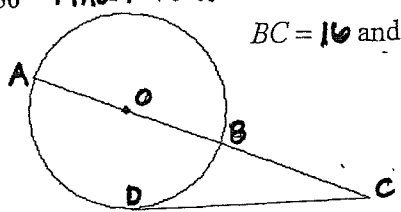


49 Find the value of  $x$ .

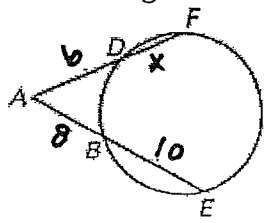


50 Find the diameter of the circle.

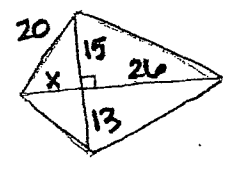
$BC = 16$  and  $DC = 20$ .



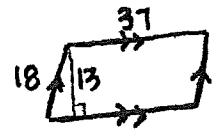
51 Use the diagram to find the value of  $x$ .



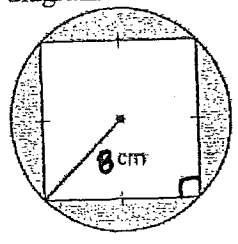
52 Find the area of the quadrilateral. (not drawn to scale)



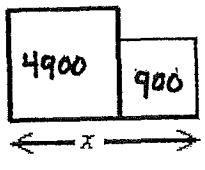
53 The area of the parallelogram is \_\_\_\_\_



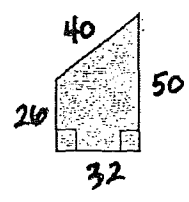
54 What is the area of the shaded region in the diagram below?



55 The figure below is made up of two squares with the areas shown. What is the length of  $x$ ?



56 The area of the quadrilateral is \_\_\_\_\_.

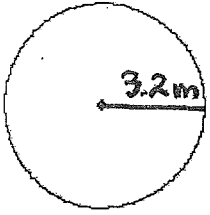


57 The area of a regular octagon is  $20 \text{ cm}^2$ . What is the area of a regular octagon with sides five times as large as the sides of the first octagon?

58 The ratio of the side lengths of two regular hexagons is 5 to 12. If the area of the smaller hexagon is 18 square units, then the area of the larger hexagon is \_\_\_\_\_.

59 Find the length of a  $30^\circ$  arc in a circle with a radius of 5.

60 Find the area.

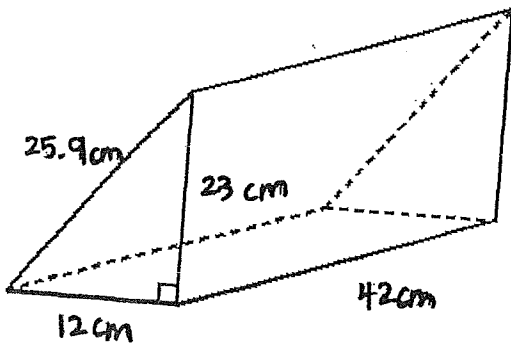


61 Find the area of an equilateral triangle with side length 12.

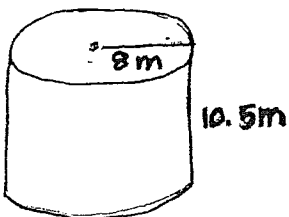
62 A regular hexagon has a side length of 8. Its area is \_\_\_\_\_.

63 What is the area of a regular pentagon if its apothem has a length of 7 feet and each side has a length of 9.2 feet?

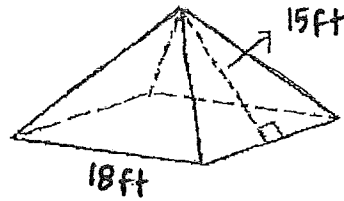
64 Find the surface area of the triangular prism.



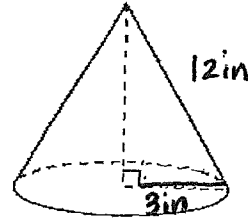
65 Find the surface area of the cylinder to the nearest square unit. Use  $\pi \approx 3.14$ .



66 Find the surface area of the lateral faces on the regular pyramid below.

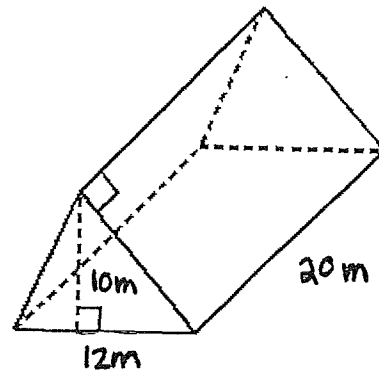


67 The surface area of the right cone shown is \_\_\_\_\_.



68 A regular pyramid has a base area of  $12\sqrt{3}$  in.<sup>2</sup>, a base perimeter of 24 in., and a slant height of  $8\sqrt{3}$  in. Its surface area is \_\_\_\_\_.

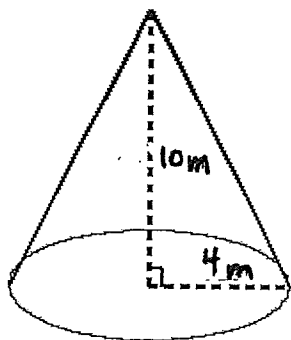
69 Find the volume of the right triangular prism.



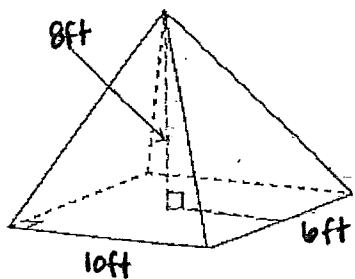
70 An aquarium in a restaurant is a rectangular prism and measures 3.5 feet by 4 feet by 4 feet. What is the volume of the aquarium?

- 71 Find the exact volume of a cylinder that has a height of 18 inches and a radius of 6 inches.

- 72 Calculate the volume of the cone. Use  $\pi \approx 3.14$ .



- 73 The volume of the pyramid below is \_\_\_\_\_.



- 74 Find the volume of a sphere 16 ft in diameter. Use  $\pi \approx 3.14$  and round your answer to the nearest