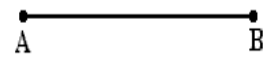


**Geometry 1-2 and Geometry CD
Review for Final Exam**

Name _____

1. What are the possible measures of the congruent angles of a triangle that is isosceles and acute?
2. Identify each of the following segments:
 - a) A perpendicular from a vertex to the opposite side of a triangle _____
 - b) A segment from a vertex to the midpoint of the opposite side of a triangle _____
 - c) A segment from a vertex to the opposite side of a triangle that bisects the vertex angle _____
3. Given segment \overline{AB} with its midpoint at C.
If $AC = 12$, what is the measure of AB? _____

4. Show the construction of the perpendicular bisector of the given segment \overline{AB}

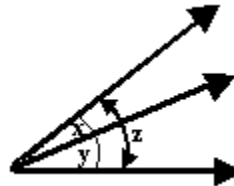


5. Underline the hypothesis of the statement: " I will get a passing grade if I study."

6. In $\triangle ABC$, $m\angle A = 46^\circ$, $m\angle B = 77^\circ$. Find $m\angle C$.

$m\angle C =$ _____

7. In the figure, $m\angle x = 27^\circ$, $m\angle y = 38^\circ$, what is $m\angle z$?



$m\angle z =$ _____

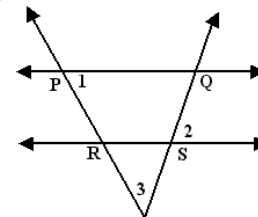
8. Identify each statement as True or False:

- | | | |
|--|---|---|
| a) In a circle, the longer of two chords is closer to the center than the shorter one. | T | F |
| b) A square can also be identified as a rhombus. | T | F |
| c) The diagonals of a trapezoid are congruent. | T | F |
| d) A triangle that is inscribed in a semi-circle is a right triangle. | T | F |

9. Given $\angle P$ and $\angle Q$ are complementary, $m\angle P = 3x + 12^\circ$ and $m\angle Q = 5x - 42^\circ$, find $m\angle P$. $m\angle P =$ _____

10. In $\triangle ABC$, $m\angle A = x + 22^\circ$, $m\angle B = 4x - 17^\circ$ and $m\angle C = 3x + 39^\circ$, find $m\angle A$. $m\angle A =$ _____

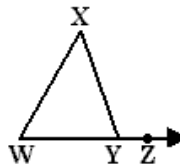
11. In the figure, $\overline{PQ} \parallel \overline{RS}$. If $m\angle 1 = 62^\circ$ and $m\angle 2 = 45^\circ$, find $m\angle 3$.



$m\angle 3 =$ _____

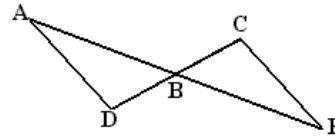
12. In $\triangle ABC$, $AB = 15$, $BC = 22$ and $AC = 19$. List the angles in order from smallest to largest. _____

13. In $\triangle WXY$, $m\angle X = 44^\circ$, $m\angle W = 57^\circ$, find $m\angle XYZ$.



$m\angle XYZ =$ _____

14. In the given figure, $\angle A \cong \angle E$ and $AD = EC$, which postulate or theorem proves that $\triangle ADB \cong \triangle ECB$? _____



15. In $\triangle HJK$, if $HJ = 18$ and $HK = 10$, what are the possible measures that JK may have? _____

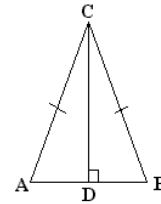
16. Given that $\triangle ABC \sim \triangle EFG$ with $AB = 8$, $BC = 12$, and $EF = 9$, what is the measure FG ? $FG =$ _____

17. Given that $\triangle PQR \sim \triangle BMW$ with $PQ = 4$ cm, $QR = 12$ cm, $PR = 9$ cm, and the shortest side of $\triangle BMW$ is 20 cm, what is the longest side of $\triangle BMW$ and what is its length? _____

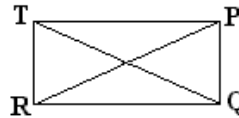
18. In $\triangle MNP$, the measure of $\angle M$ is three times the measure of $\angle N$, and the measure of $\angle P$ is 40° more than the measure of $\angle M$. What is the largest angle of $\triangle MNP$ and what is its measure? _____

19. In $\square SPQR$, if $m\angle S = 3x + 12^\circ$ and $m\angle P = 7x - 32^\circ$, what is $m\angle S$? $m\angle S =$ _____

20. $\triangle ABC$ is isosceles with $AC = BC$ and \overline{CD} is an altitude of the triangle. What postulate or theorem can be used to prove that $\triangle ACD \cong \triangle BCD$? _____



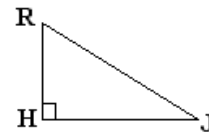
21. Given $\square RTPQ$ is a rectangle with $RP = 6x + 10$ and $TQ = 4x + 30$, what is the length of RP ? _____



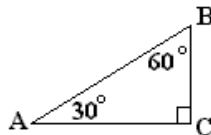
22. What is the degree measure of each interior angle of a regular hexagon? _____

23. What is the area of a regular octagon if each side has a measure of 10 cm and the apothem has a length of 12 cm? _____

24. Given $\triangle HRJ$ is a right triangle, if $HR = 6$ cm and $HJ = 8$ cm, what is the length of the hypotenuse \overline{RJ} ? _____

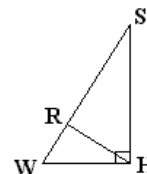


25. In the figure, if $AB = 12$, find AC _____

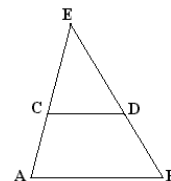


26. What is the length of the diagonal of a square if each side has a length of 5 cm? _____

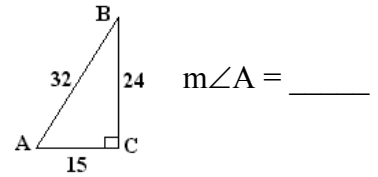
27. In right triangle $\triangle WHS$, \overline{HR} is an altitude to the hypotenuse \overline{WS} . If $WR = 9$ cm and $HR = 12$ cm, find the measure of RS . _____



28. In the figure, $\overline{AB} \parallel \overline{CD}$, $AC = 8$ cm, $BD = 12$ cm, and $EC = 6$ cm. Find the measure of ED . _____

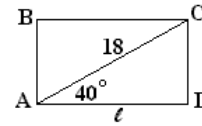


29. Given the right triangle, find the measure of $\angle A$ to the nearest degree.



$m\angle A =$ _____

30. Given the rectangle ABCD with $AC = 18$ and $m\angle CAD = 40^\circ$.



What is the measure of the length, l , of the rectangle?

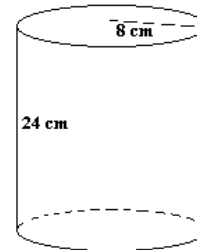
$l =$ _____

31. The area of a triangle is 364 square meters. If the triangle has an altitude of 22.4 meters, what is the length of the base of the triangle ?

32. The diameter of the tires on Jerome's car are 22.4 in. Find the circumference of the tires and calculate the number of revolutions that the tires make when he travels 1 mile, rounded to the nearest whole number. (Note: 1 mile = 5280 feet)

_____ rev.

33. What is the volume of a right circular cylinder with a radius of 8 cm and a height of 24 cm.



Volume = _____

34. A rectangular prism has a length of 18 cm, width of 13 cm and a height of 9 cm. What is the volume of the prism?

Volume = _____

35. If the volume of a sphere is $36\pi \text{ cm}^3$, what is the measure of the diameter of the sphere?

36. The area of each face of a cube is 25 cm^2 . What is the volume of the cube?

37. On a coordinate system, line l_1 has a slope of $\frac{2}{3}$. If $l_1 \perp l_2$, then what is the slope of l_2 ?

38. What is the slope of the line that contains the points (3, -5) and (-4, 9) ?

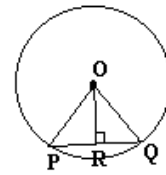
39. $\triangle ABC$ is an isosceles triangle drawn on a coordinate system. The base \overline{AB} has coordinates at A (-2, 1) and B (6, 7). What is the length of \overline{AB} ?

$AB =$ _____

40. Given \overline{PQ} with its midpoint M at (-1, 2). If P is at (5, -3), what are the coordinates of Q?

41. What is the area of a circle with a diameter of 11 cm? (Write the answer as a multiple of π)

42. Given the figure with $PQ = 16$ and $OP = 17$, $\overline{OR} \perp \overline{PQ}$, find the length of OR .



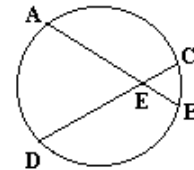
43. Two rectangles are similar. If the length of the smaller is 5 cm, the length of the larger is 8 cm, and the area of the smaller is 40 cm^2 , what is the area of the larger rectangle?

44. Find the area of a sector of a circle that has a 60° arc that is part of a circle with a radius of 6 cm. (Write the answer as a multiple of π)

45. The equation of a circle is given as $(x + 4)^2 + (y - 3)^2 = 36$. Identify the center and the length of the radius of the circle.

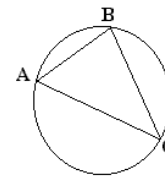
Center _____, radius = _____

46. Given the figure with $AE = 6$, $EB = 8$, and $CE = 4$. Find the length of DE .



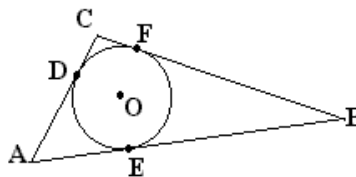
$DE =$ _____

47. The $\triangle ABC$ is inscribed in a circle. If the ratio of the arcs $m\widehat{AB} : m\widehat{BC} : m\widehat{AC} = 1 : 3 : 4$, what is the degree measure of $\angle ABC$?

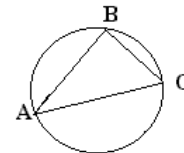


$m\angle ABC =$ _____

48. In the figure, the circle is inscribed in the triangle. If $CF = 4$ cm, $BF = 10$ cm and $AD = 6$ cm, what is the perimeter of the $\triangle ABC$?



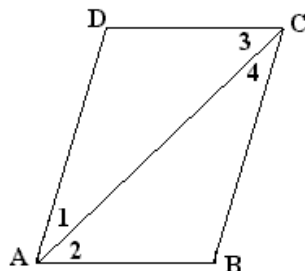
49. A triangle is inscribed in a circle as shown with $m\angle A = x$, $m\angle B = 3x$, and $m\angle C = 2x$. Find the degree measure of \widehat{ABC} .



50. Complete the proof:

Given: $\overline{AB} \parallel \overline{DC}$, $\overline{AD} \parallel \overline{BC}$

Prove: $\overline{AB} \cong \overline{DC}$



Statements	Reasons
1. $\overline{AB} \parallel \overline{DC}$, $\overline{AD} \parallel \overline{BC}$	1. Given
2. _____	2. If two parallel lines are cut by a transversal, the alternate interior angles are congruent
3. $\overline{AC} \cong \overline{AC}$	3. _____
4. $\triangle ACD \cong \triangle CAB$	4. _____
5. $\overline{AB} \cong \overline{DC}$	5. _____