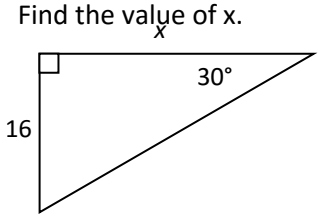
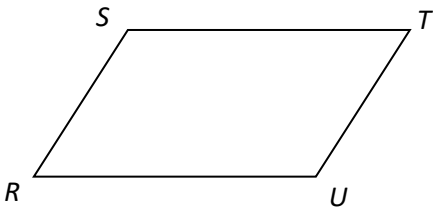
Geometry Final Review 2017 Name_____

1. Find the value of x.

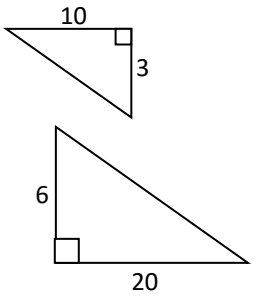


2. What is the measure of one exterior angle of a regular octagon? hexagon? decagon?

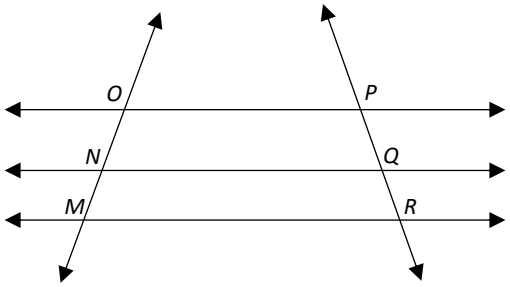
3. In parallelogram *RSTU*, *RS*= (3*x* + 6) and *UT*= (5*x* - 2). Find the value of *x*.



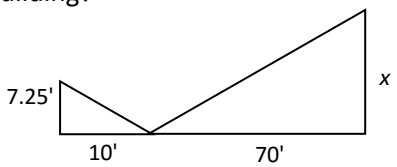
4. The triangles below are similar by _____?



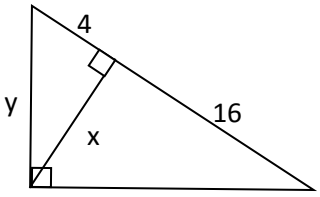
5. In the figure below, $\overleftrightarrow{OP} \parallel \overleftrightarrow{NQ} \parallel \overleftrightarrow{MR}$. Find the length of $\overline{PR}$, if *MN* = 10, *NO* = 26, and *PQ* = 18.



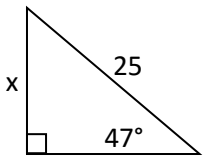
6. Bethany positioned herself so that she could see the top of a building in a mirror that she laid on the ground. Based on her diagram, how tall is the building?

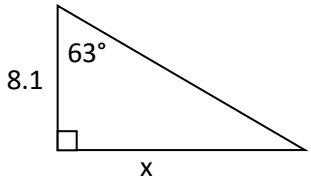


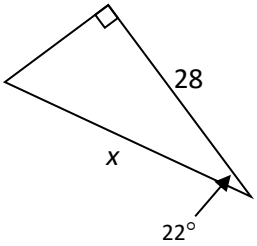
7. Solve for x and y.



8. Solve for x

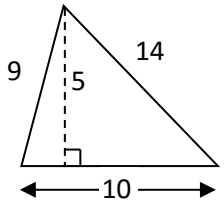






9. At a point on the ground 23 m from the foot of a tree, the angle of elevation to the top of the tree is 58°. Find the height of the tree.

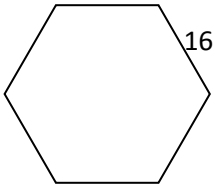
10. What is the area of the figure?



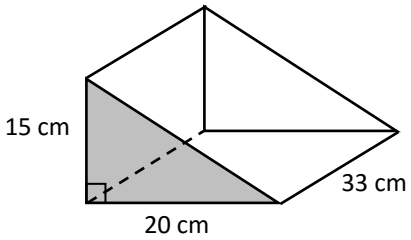
11. What is the perimeter of a square whose area is 81 m^2? 49 m^2?

12. What is the circumference of a circle whose diameter is 30 cm?

13. What is the area of the regular polygon?

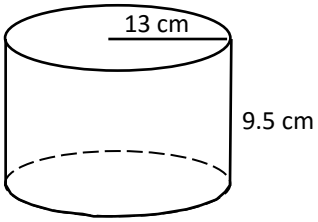


14. Volume =

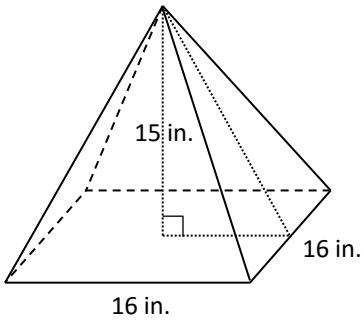


15. Surface area =

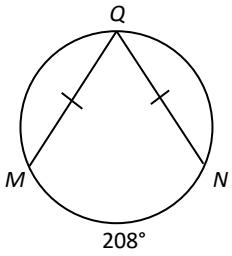
16. Volume =



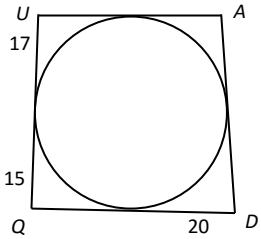
17. Surface area =



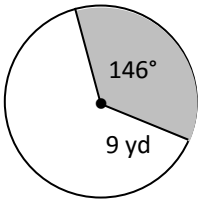
18. Find m∠*MQN*.



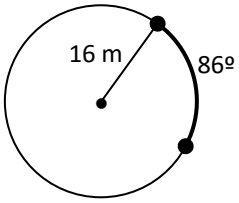
19. *QUAD* is circumscribed and *AD* = 38. Find the perimeter.



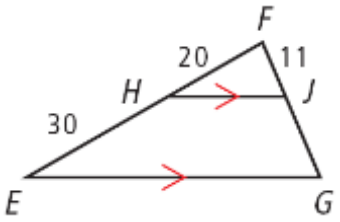
20. What is the area of the sector?



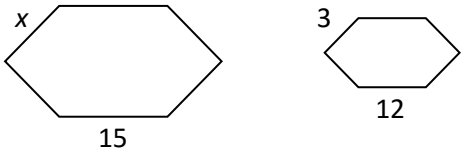
21. What is the exact length of the arc?



22. Find *JG*.

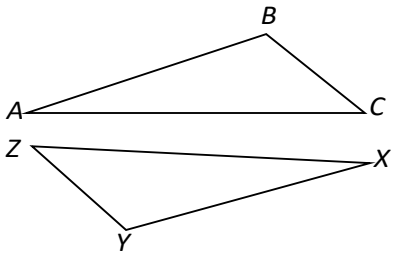


23. If the two polygons below are similar, find the length of the missing side.



24. What are the 3 methods used to prove triangles are similar?
    A) AA~, SAS~, SSS~
    B) AA~, SAS~, ASA~
    C) ASA~, AAS~, SSS~
    D) HL~, AA~, ASA~

25. In the diagram below, $\Delta ABC \cong \Delta XYZ$. Mark each statement true or false.

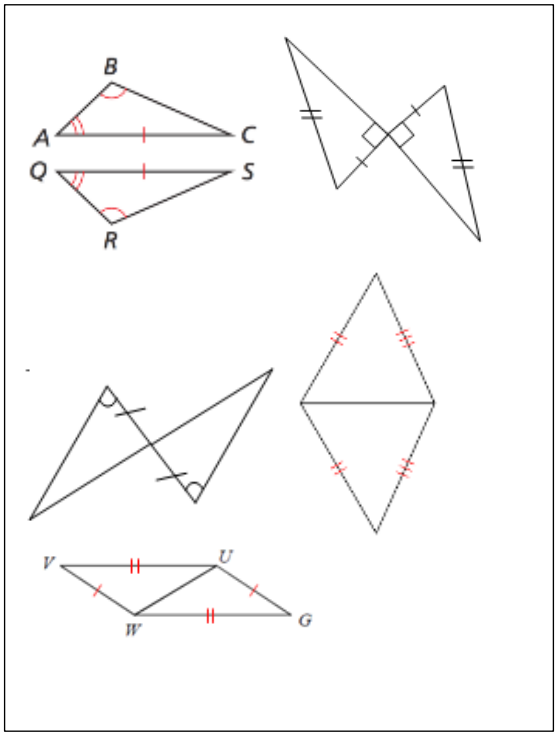


$\angle B \cong \angle Y$ _____
$\angle C \cong \angle Y$ _____
$\angle A \cong \angle X$ _____
$\overline{AC} \cong \overline{YZ}$ _____
$\overline{ZY} \cong \overline{CB}$ _____
$\overline{CB} \cong \overline{XZ}$ _____

26. What does CPCTC stand for? When is it used?

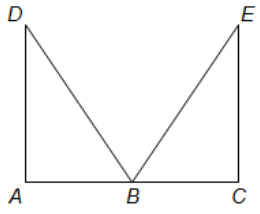
27. If $\Delta PQR \cong \Delta XYZ$, $PQ = 5a + 8$, and $XY = 7a - 14$. Find a and PQ.

28. Select the theorem that can be used to prove the triangles congruent. Your choices are SSS. SAS, ASA, AAS, or HL

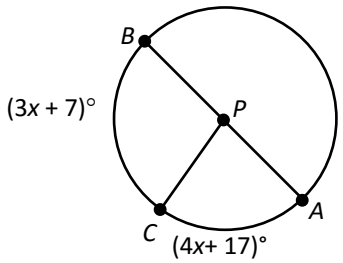


29. Which answer choice below gives enough information to prove that $\Delta ABC \cong \Delta DEF$ using the Angle-Angle-Side (AAS) Congruence Theorem.
    $\overline{AC} \cong \overline{DF}$, $\overline{AB} \cong \overline{DE}$, $\overline{BC} \cong \overline{EF}$
    $\overline{AB} \cong \overline{DE}$, $\angle A \cong \angle D$, $\overline{AC} \cong \overline{DF}$
    $\angle A \cong \angle D$, $\angle C \cong \angle F$, $\overline{AC} \cong \overline{DE}$
    $\angle A \cong \angle B$, $\angle B \cong \angle E$, $\overline{BC} \cong \overline{EF}$

30. In the diagram below, B is the midpoint of $\overline{AC}$, $\overline{DA} \perp \overline{AC}$, $\overline{EC} \perp \overline{AC}$, and $\overline{DB} \cong \overline{EB}$. Which theorem may be used to prove $\Delta DAB \cong \Delta ECB$?



31. Given that $\overline{BA}$ is a diameter, find m CA.



32. What is the equation for a circle with a center at (0, 0) and radius = 9?

33. What is the center and radius of the circle with equation $(x+3)^2+(y-7)^2=36$?

34. Solve for x.