Pre-AP Geometry

Name: _____

Cumulative Review

Teacher -- Period: _____

Chapter 1:

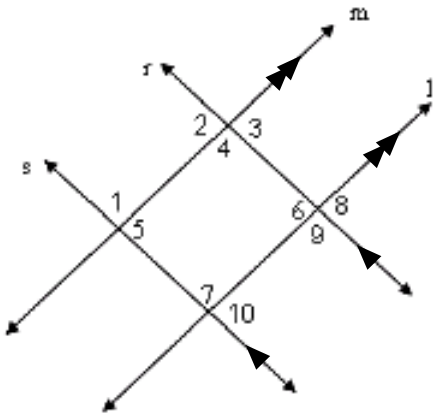
1. Determine the distance between the points (5, 12) and (-1, 6).

2. Calculate the midpoint of a line segment with endpoints (-2, -1) and (6, 3)

3. Write the equation of a line that passes through A(-1, 7) and B(5, -10).

4. Determine if $\overleftrightarrow{AB}$ from problem #3 is parallel, perpendicular, or neither to a line that passes through C(2, 9) and D(6, -12).

5. $\overline{JK}$ has endpoints (3, 7) and (4, -3). If $\overline{JK}$ is translated 12 units down and 7 unites to the left, what are the endpoints of $\overline{J'K'}$?

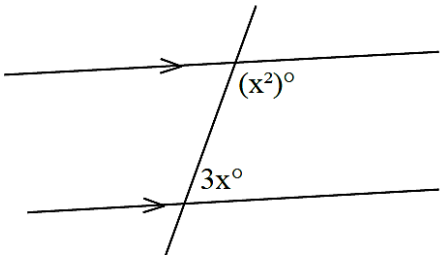


Chapter 2:

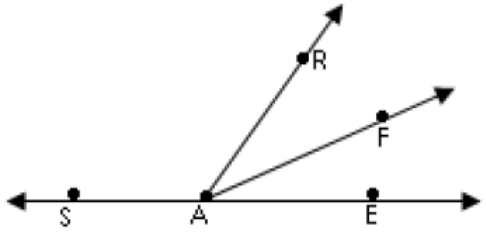
6. Use the diagram above to match the correct statements to f

a. $\angle 1\ and\ \angle 7$ are ≅ because they are ____
b. $\angle 6\ and\ \angle 10$ are ____ and ≅
c. $Line\ m$ is || to ____
d. $\angle 2\ and$ ____ are alternate exterior $\angle's$
e. $\angle 1\ and$ ____ are same-side exterior $\angle's$
f. $Line\ r$ is || to ____
g. Same-side interior $\angle's$ are _____
h. Corresponding $\angle's$ are _____
i. $\angle 2\ and\ \angle 3$ are ≅ because they are ____
j. vertical $\angle's$
k. $Line\ l$
l. congruent
m. alternate interior $\angle's$
n. supplementary
o. $\angle 10$
p. corresponding $\angle's$
q. $\angle 8$
r. $Line\ s$

7. Find the values of x.

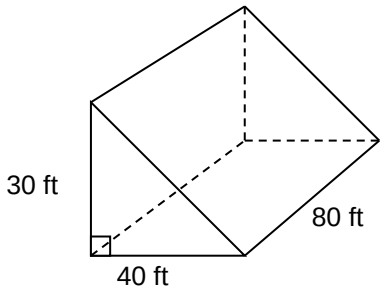


8. $\overrightarrow{AF}$ bisects $\angle RAE, m\angle SAR = 6x, m\angle RAE = 90 - x$.
   Find the value of x.

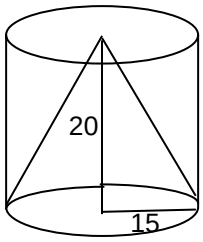


Chapters 3-4:

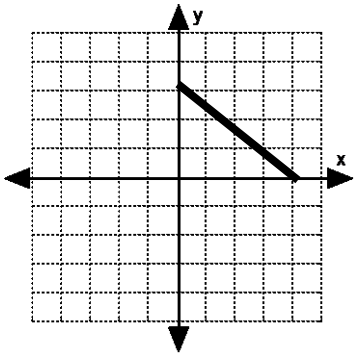
9. Find the lateral surface area and total surface area of the triangular prism.



10. Find the volume of the remaining figure when the cone is removed from the cylinder.

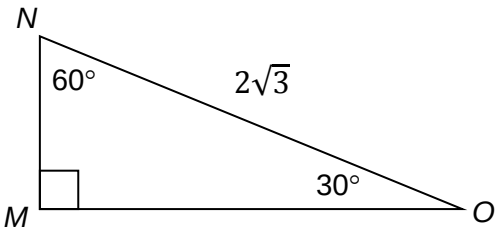


11. What shape is created when you rotate the right triangle shown 360° about the x-axis, what is the volume of the resulting shape in terms of π?

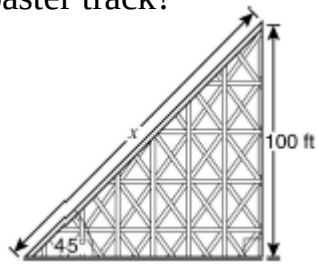


Chapters 5-8:

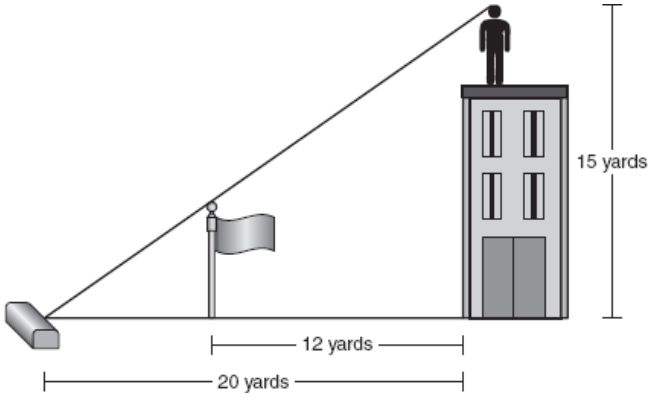
12. MO = _____



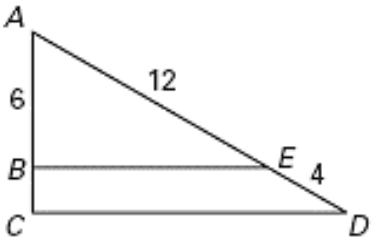
13. Matt wants to design the first section of a roller coaster track. He wants the ramp section to rise at 45° with the horizontal and connect at the top of a segment 100 feet high. Find *x*, the length of the ramp that Matt needs to complete his section of the coaster track?



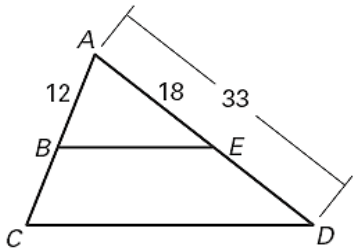
14. Carla looks down from a height of 15 yards at the top of her apartment building. She lines up the top of a flagpole with the curb of a street 20 yards away. If the flagpole is 12 yards from the apartment building, how tall is the flagpole?



15. Given $\Delta ABE \sim \Delta ACD$, find BC.



16. Given $\Delta ABE \sim \Delta ACD$, find BC.



17. Rotate ΔABC whose coordinates are A(3, 2), B(3, 6), C(6, 1) 90° counterclockwise about the origin and then Reflect it over the Y axis.

A'(,)

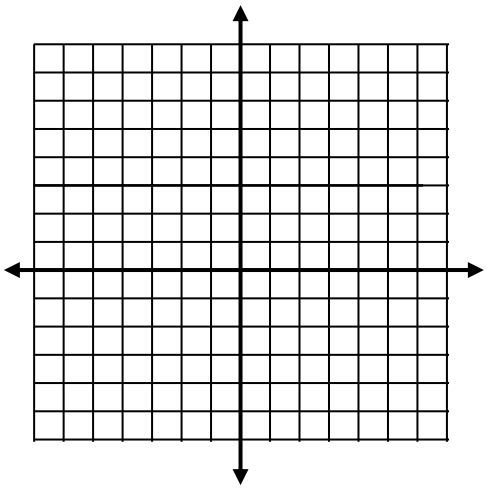
B'(,)

C'(,)

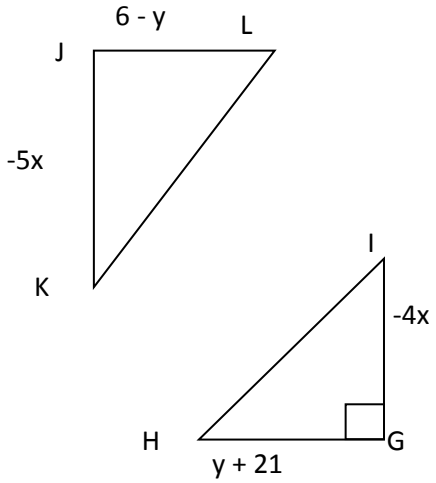
A''(,)

B''(,)

C''(,)



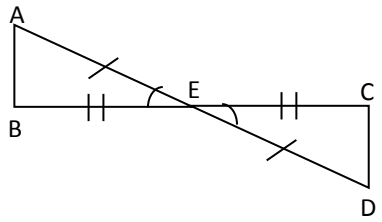
18. What is the length of $\overline{GH}$, if $\Delta GHI \cong \Delta JKL$?



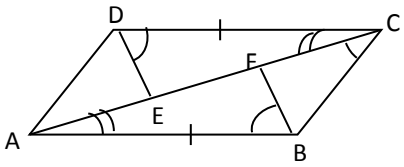
19. If △ CAT ≅ △ DOG, CA = 4x – y, CT = 3y – 2, DO = 2x + 2 and DG = x + 2y, find the value of x and y.

#20-27. For each pair of triangles, tell which postulate, if any, can be used to prove the triangles congruent. (ASA, AAS, SSS, SAS, HL)

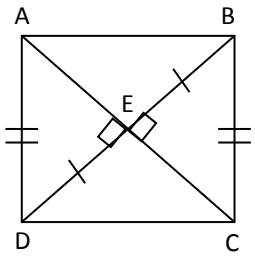
20. $\Delta AEB \cong \Delta DEC$ _____



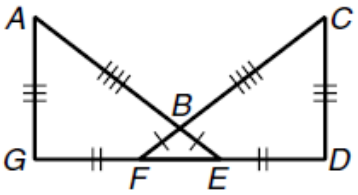
21. $\Delta CDE \cong \Delta ABF$ _____



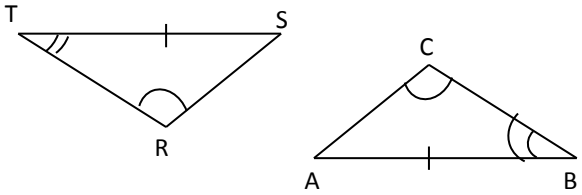
22. $\Delta DEA \cong \Delta BEC$ _____



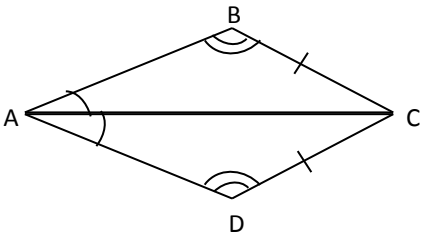
23. $\Delta AGE \cong \Delta CDF$_____



24. $\Delta RTS \cong \Delta CBA$ _____

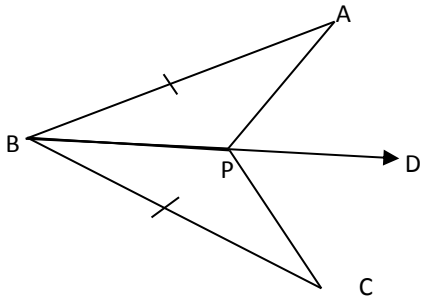


25. $\Delta ABC \cong \Delta ADC$ _____

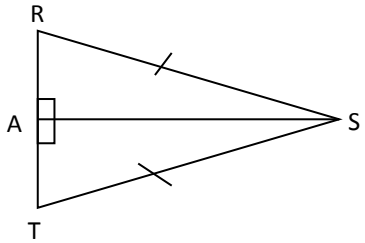


26. $\Delta BAP \cong \Delta BCP$ _____

Given: $\overrightarrow{BD}$ bisects $\angle ABC$



27. $\Delta SAT \cong \Delta SAR$ _____



Chapter 9:

28. When the angle of elevation of the sun is 62°, a building casts a shadow 18 m long. How tall (t) is the building?

29. Fred is standing on a 25m tower and sees a snake on the ground 18 m from the base of the tower, what is the angle of depression (d) from Fred to the snake?

30. A wire is attached from the top of a tower to a point on the ground. The base of the tower is 35 m from the end of the wire on the ground. If the wire makes a 65° angle with the ground, how long is the wire (w)?

31. A ladder that is 20 ft. long is leaning against the side of a building. If the angle formed between the ladder and ground is 75°, how far is the bottom of the ladder from the base of the building? How far up the building will it reach?

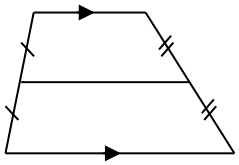
Chapter 10:

Review Quadrilateral Flipbook from Chapter 10 to know the properties of the different parallelograms (parallelogram, rhombus, square, rectangle).

	Opp. Sides ||	Opp. Sides ≅	All Sides ≅	Opp. Angles ≅	All Angles ≅
Parallelogram					
Rhombus					
Square					
Rectangle					
	Diagonals bisect each other	**Diagonals ⊥**	**Diagonals ≅**	**Diagonals bisect $\angle's$**	**Consecutive $\angle's$ supp.**
Parallelogram					
Rhombus					
Square					
Rectangle					

** Also review Quadrilateral Flipbook from Chapter 10 to know the properties of kites and trapezoids.**

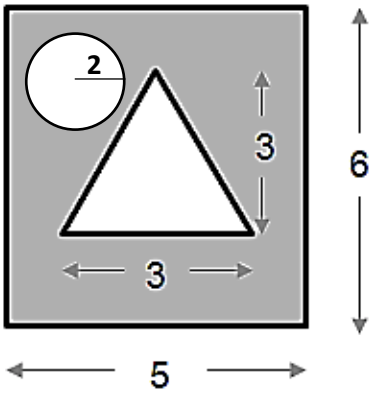
<u>Trapezoid Midsegment Theorem:</u> The midsegment of a trapezoid is parallel to each of the bases and its length is one half the sum of the bases (average measure of bases).



Chapter 14-15:

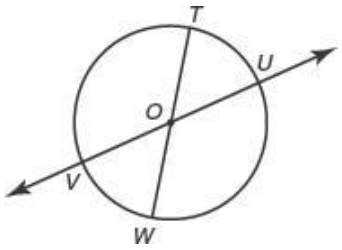
<u>Geometric Probability</u>

32. What is the probability that a randomly selected point is in the shaded region?

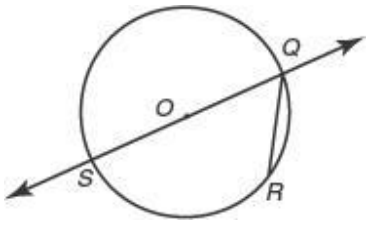


Chapters 11-13:

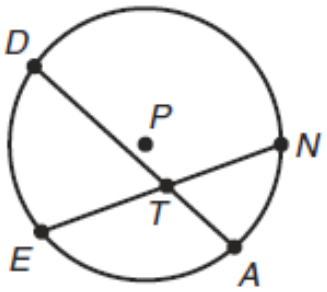
33. ∠TOU = 37°, what is m $\overset{\frown}{VW}$?



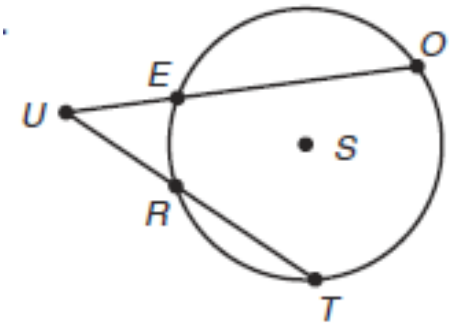
34. m $\overset{\frown}{SR}$ = 72°, what is m∠SQR?



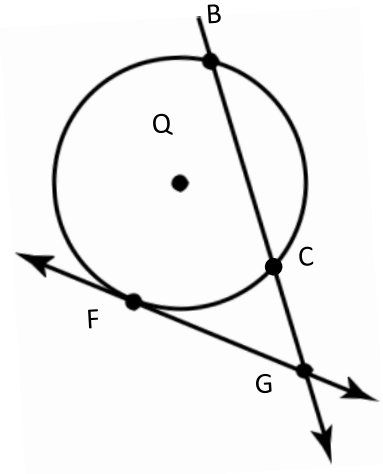
35. In circle P, m $\overset{\frown}{DE}$ = 75°, and m $\overset{\frown}{NA}$ = 49°, determine m∠DTE



36. In circle S, m $\overset{\frown}{ER}$ = 38°, and m $\overset{\frown}{OT}$ = 121°, determine m∠OUT



37. In the figure shown, line *FG* is tangent to circle *Q*, *BC* = 10 feet, and *CG* = 4 feet. What is *FG*?



****Review material from <u>Chapters 12-13</u> such as arc length, sector and segment area, standard and general form of the equation of a circle, and completing the square in order to rewrite general form to standard form. ****