

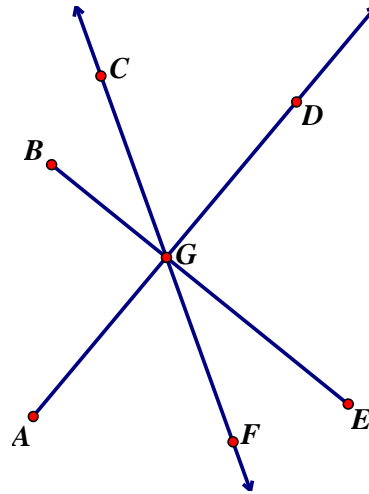
Geometry - Chapter 1 Review Questions for 1st Semester Final

Name: _____

Period: _____

1. Use the picture to name the following, $\overline{BE} \perp \overline{GD}$:

- a. Ray: _____
- b. Line Segment: _____
- c. Linear Pair: $\angle BGC$ and _____
- d. Line: _____
- e. Complementary Angles: $\angle FGE$ and _____
- f. Vertical Angles: $\angle AGF$ and _____

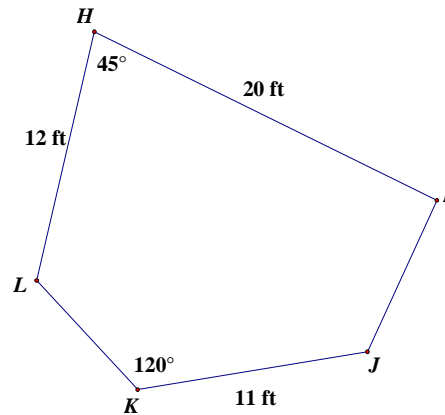


2. Sketch, label, and mark each figure.

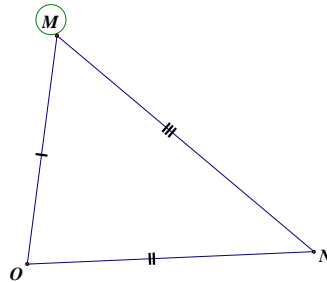
- a. Obtuse triangle MAN with $m\angle MNA > 90^\circ$.
- b. Isosceles right triangle BOT with $\overline{BO} \cong \overline{BT}$, \overline{TO} , and collinear points R, E, and X on the longest side of the triangle.

3. If $HIJKL \cong WOMAN$, then find the following measures.

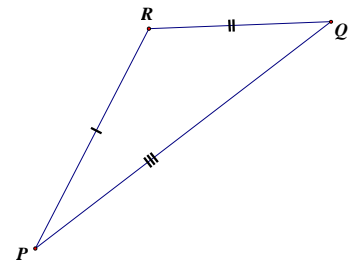
- a. $m\angle A =$ _____
- b. $MA =$ _____
- c. $NW =$ _____



4. a. Name the circled angle 3 different ways.



b. $\triangle MON \cong$ _____



5. Sketch a concave shape and a convex shape.

6. True or False? If the statement is true, provide 3 examples. If it is false, provide one counter-example.

Any number that is divisible by 3 is also divisible by 6.

Chapter 2 Final Review Questions

1. When you use _____ reasoning you are generalizing (making a conjecture) from careful observation that something is probably true. When you were _____ reasoning you are establishing that if a set of properties is accepted as true something else must be true.

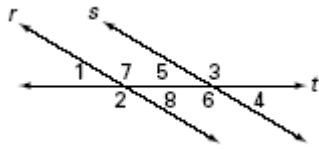
2. Complete the pattern:

$$\frac{1}{2}, 9, \frac{2}{3}, 10, \frac{3}{4}, 11, _, _$$

4. $r \parallel s$. Suppose that $m\angle 5 = 33^\circ$.

$$m\angle 1 = \underline{\hspace{2cm}}$$

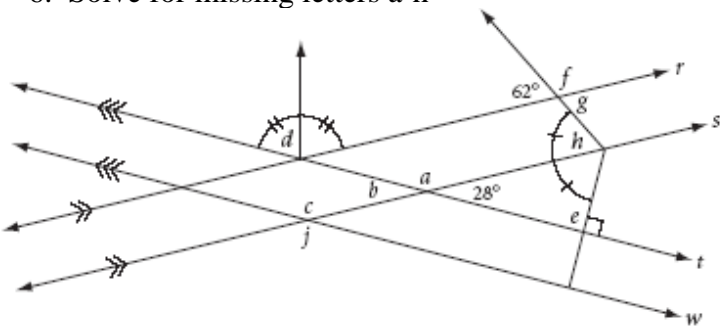
$$m\angle 2 = \underline{\hspace{2cm}}$$



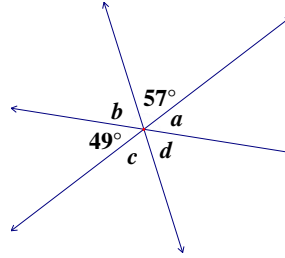
Suppose that $m\angle 2 = 13n - 9$ and $m\angle 4 = 7n - 3$.

$$n = \underline{\hspace{2cm}}$$

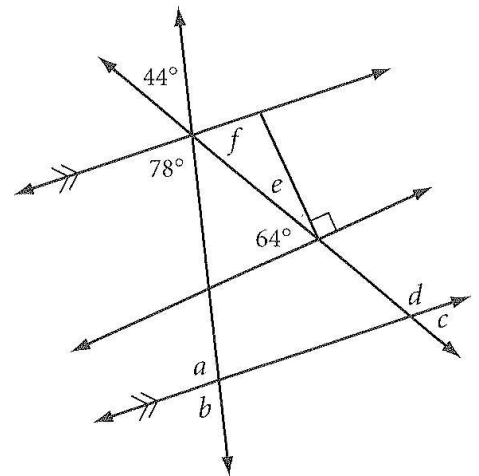
6. Solve for missing letters a-h



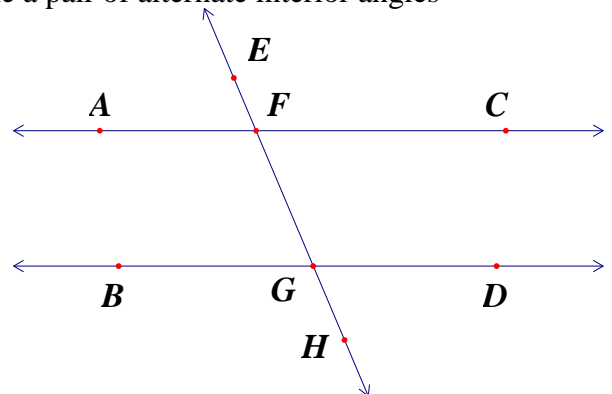
3. Solve for a, b, c, and d.



5. Find the missing angles.



- name a pair of vertical angles
- name a pair of linear angles
- name a pair of corresponding angles
- name a pair of alternate interior angles



Chapter 3 Final Review Questions

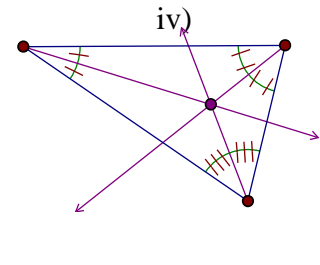
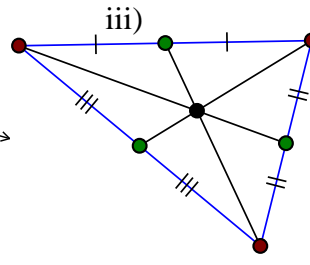
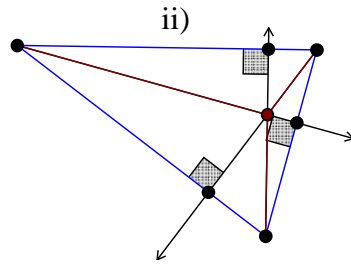
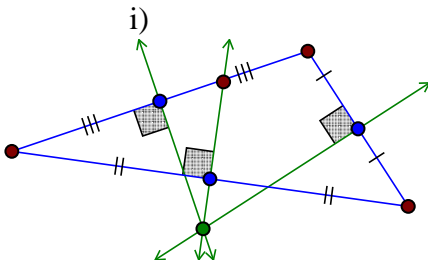
1. Match the picture to the proper center of the circle

a. Centroid - ____

b. Circumcenter - ____

c. Incenter - ____

d. Orthocenter. - ____



2. Describe how each of the centers above is made:

a. Centroid -

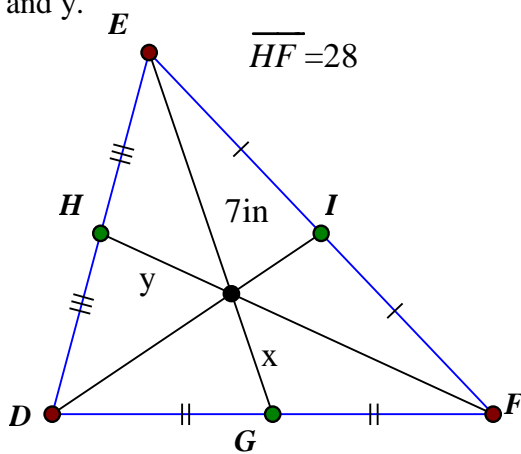
b. Circumcenter -

c. Incenter -

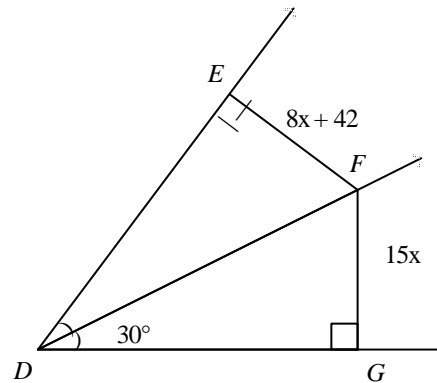
d. Orthocenter -

3. What is an altitude?

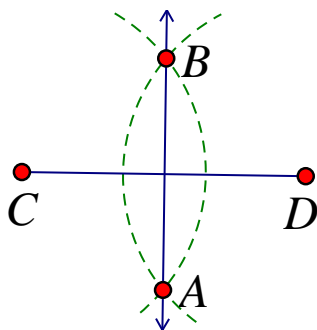
4a.) Find x and y.



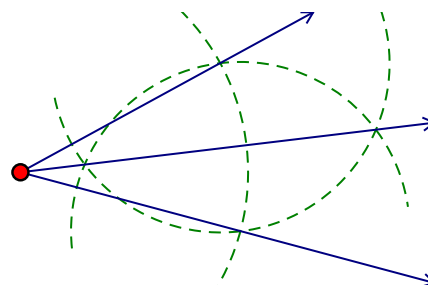
4b.) \overrightarrow{DF} bisects $\angle EDG$. Find the value of x.



5. Based on the markings what has been constructed?



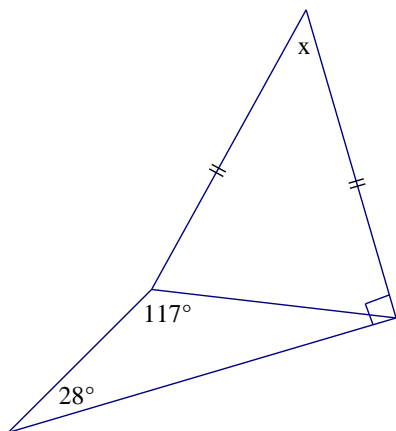
6. Based on the markings what has been constructed?



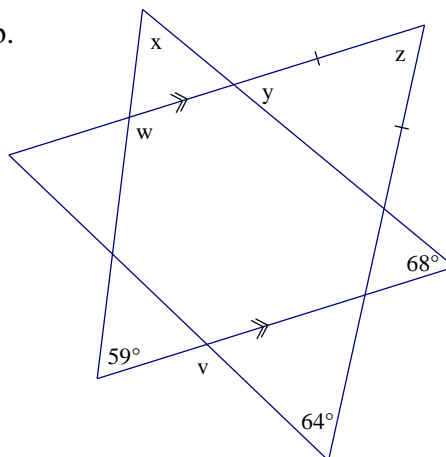
Geometry - Chapter 4 Review Questions for 1st Semester Final

1. Find the missing measurements.

a.



b.



2. Determine whether a triangle can be formed by the given side lengths. Explain your answer.

a) 4 m, 7 m, 8 m

b) 6 m, 10 m, 17 m

c) 5 ft, 6 ft, 13 ft

d) 2 yd, 7 yd, 6 yd

e) 9 in., 20 in., 13 in.

f) 18 km, 21 km, 39 km

g) 12 feet, 5 feet, 8 feet

h) 19 cm, 25 cm, 5 cm

i) 4u, 2u, 7u

3. The lengths of two sides of a triangle are given. Find all possible lengths of the third side.

a) 5 in, 7 in

b) 9 cm, 16 cm

c) 5 m, 6 m

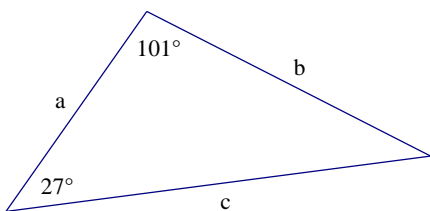
d) 11 km, 20 km

e) 5 mm, 9 mm

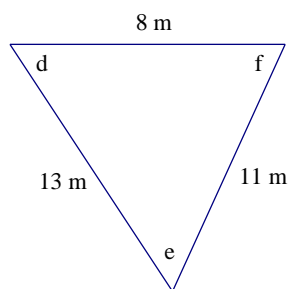
f) 23 ft, 38 ft

4. Arrange the letters in order from **greatest** value to **least** value.

a.



b.



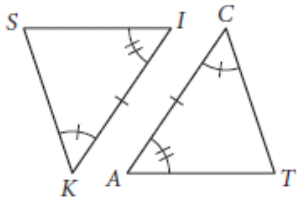
5. Solve for x .

a. $6 - 3(2x - 1) = 2 - 8x$

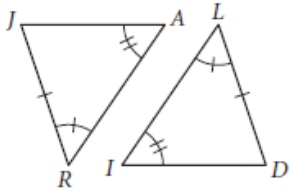
b. $\frac{x}{8} - \frac{4}{3} = \frac{9}{4}$

6. If possible, use the given information to complete the congruence statement and tell which triangle congruence conjecture supports the congruence statement. If the triangles cannot be shown to be congruent from the information given, write "cannot be determined."

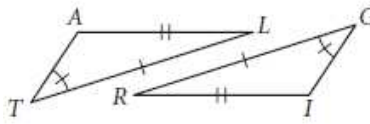
a. $\triangle SIK \cong \triangle$ _____



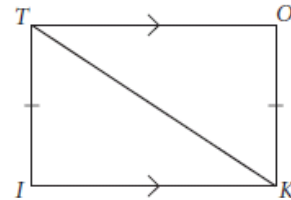
d. $\triangle JAR \cong \triangle$ _____



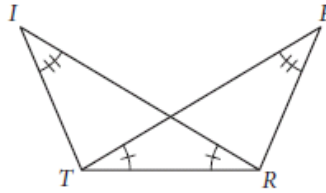
b. $\triangle TAL \cong \triangle$ _____



c. $\triangle TIK \cong \triangle$ _____

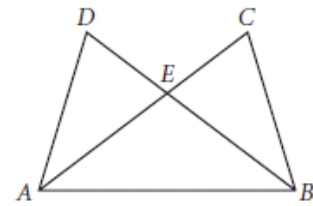


e. $\triangle ITR \cong \triangle$ _____



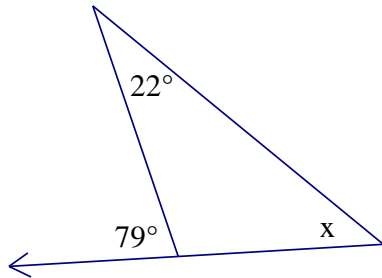
f. $\overline{AC} \cong \overline{BD}$, $\overline{AD} \cong \overline{BC}$

$\triangle ADB \cong \triangle$ _____

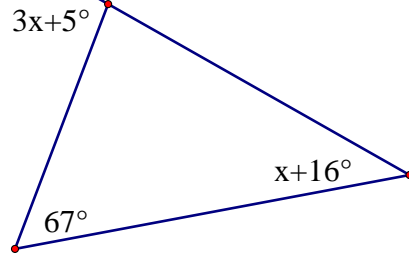


7. Solve for x .

a.



b.

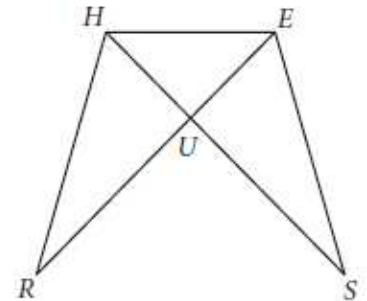


8. Provide each missing reason in the flowchart proof (numbers 4-7).

Given: $\angle R \cong \angle S$

$\overline{HR} \cong \overline{SE}$

Show: $\overline{HU} \cong \overline{EU}$



$\overline{HR} \cong \overline{SE}$

Given

$\angle R \cong \angle S$

4. _____

$\triangle HRU \cong \triangle ESU$

6. _____

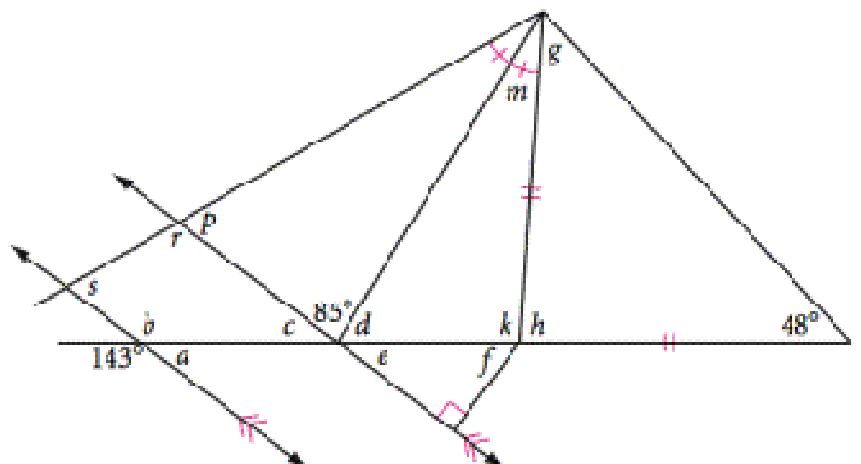
$\overline{HU} \cong \overline{EU}$

7. _____

$\angle HUR \cong \angle EUS$

5. _____

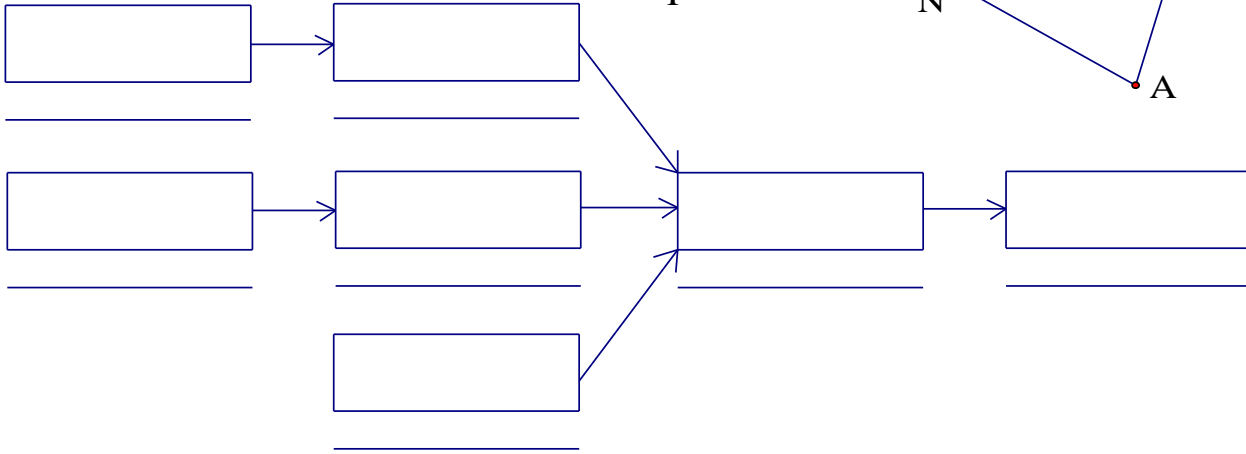
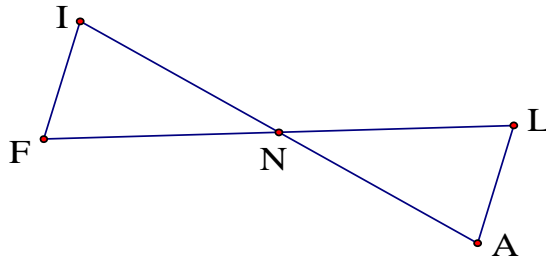
9. Find the missing measures.



10. Fill in the flow-chart proof.

Given: N is the midpoint of \overline{IA} and \overline{FL}

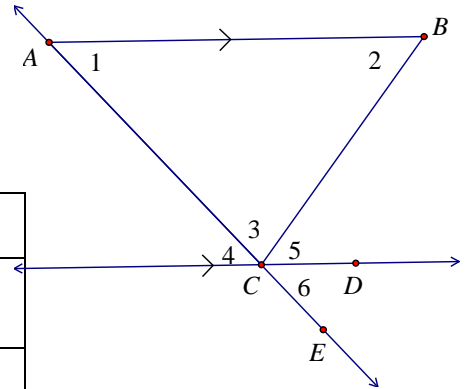
Show: $\overline{FI} \cong \overline{LA}$



11. Complete the proof below.

Given: $\triangle ABC$ with exterior angle $\angle BCE$ and $\overline{CD} \parallel \overline{AB}$.

Prove: $m\angle 1 + m\angle 2 = \angle BCE$



Statement	Reason
1. $\overline{CD} \parallel \overline{AB}$	1. Given
2. $\angle 2$ and $\angle 5$ are alternate interior angles. $\angle 1$ and $\angle 4$ are alternate interior angles.	2.
3. $\angle 2 \cong \angle 5$, $\angle 1 \cong \angle 4$	3.
4.	4. Definition of Vertical Angles
5. $\angle 4 \cong \angle 6$	5.
6. $\angle 1 \cong \angle 6$	6. Transitive property
7. $m\angle 5 + m\angle 6 = \angle BCE$	7.
8. $m\angle 1 + m\angle 2 = \angle BCE$	8.

Chapter 5 Final Review Questions

1. Show your work as you find:

a. the sum of the measures of the interior angles in a 20-gon.

b. calculate the measure of one interior angle of a regular 14-gon.

c. calculate the measure of one exterior angle of a regular 30-gon.

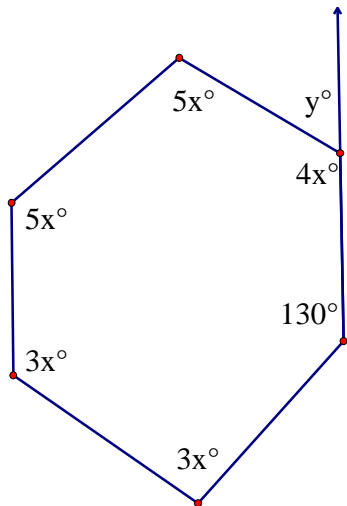
d. the number of sides of a regular polygon if one of its interior angles measures 165 degrees.

e. calculate the sum of the measures of the exterior angles of a 39-gon.

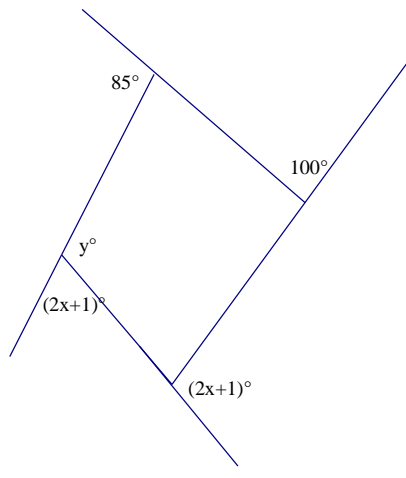
f. the number of sides of a regular polygon if one of the exterior angles measures 15 degrees.

2. Find the missing measures.

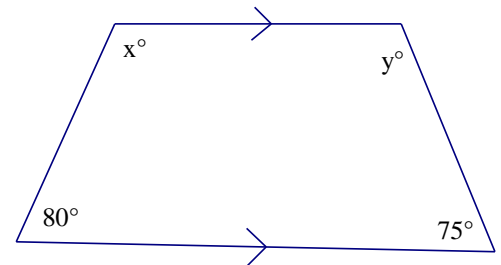
a. $x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$



b. $x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

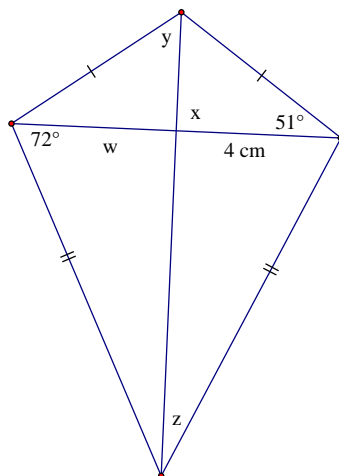


c. $x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

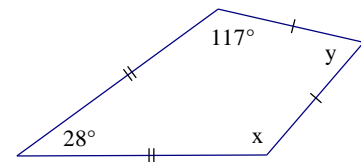


d. $w = \underline{\hspace{2cm}}$ $x = \underline{\hspace{2cm}}$

$y = \underline{\hspace{2cm}}$ $z = \underline{\hspace{2cm}}$

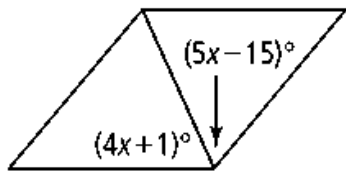


e. $x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

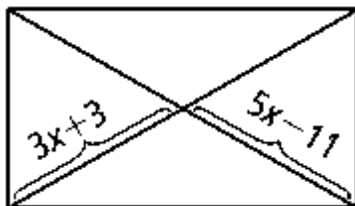


3. What value of x makes each figure the given special parallelogram?

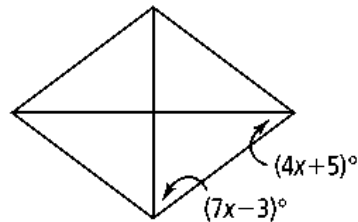
a. rhombus



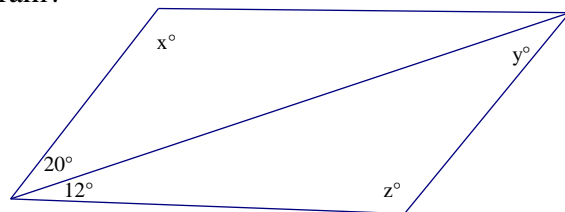
b. rectangle



c. Rhombus



4. What values must x , y , and z have to make the quadrilateral a parallelogram?



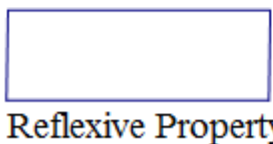
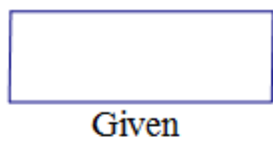
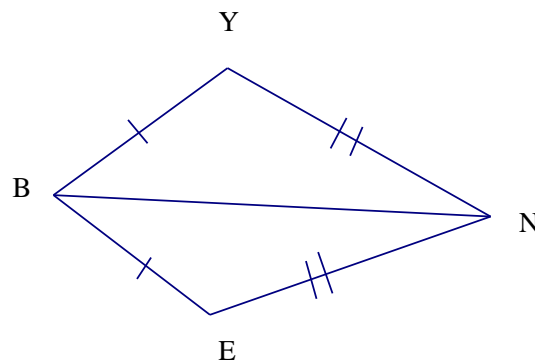
5. Circle whether each statement is always true (T) or false (F).

- T F A square is a rhombus.
- T F Diagonals of a parallelogram form two congruent triangles.
- T F Sum of exterior angles of irregular polygon is 360° .
- T F A rhombus is a rectangle.
- T F Diagonals of a kite are perpendicular.

6. Fill out the flowchart proof:

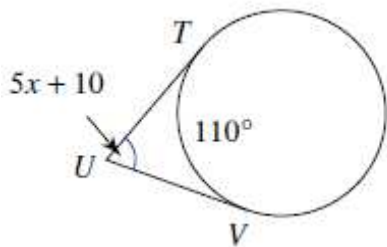
Given: $\overline{BE} \cong \overline{BY}$ and $\overline{EN} \cong \overline{YN}$

Prove: \overline{BN} bisects $\angle B$

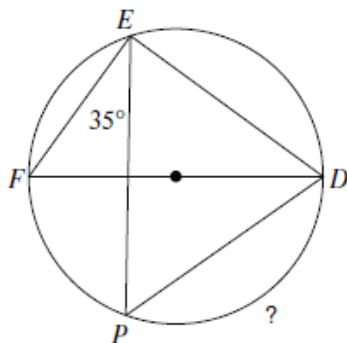


Chapter 6 Final Review Questions

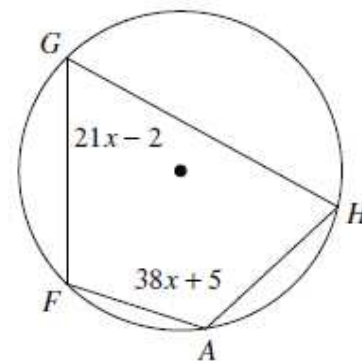
1. Solve for x .



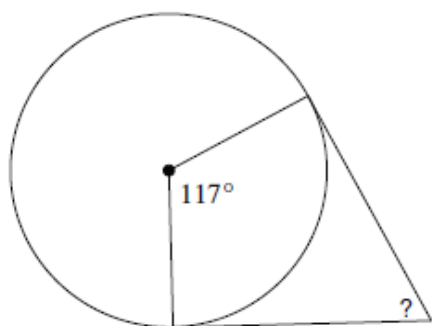
2. Find $m\widehat{PD}$.



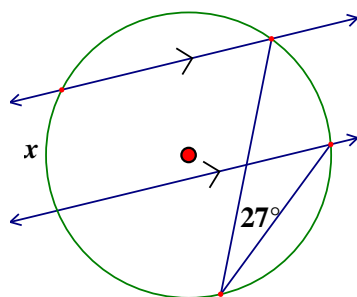
3. Find $m\widehat{FGH}$.



4. Find the indicated value.



5. Find the value of x .



6. Theo rides his tricycle around a circular track. One lap of the track is 12.6 yards. What is the diameter of the track to the nearest yard?

7. The circumference of a circle is 88π ft. What is the diameter?

8. The radius of my clock face is 12.5 cm. What is the circumference of my clock face to the nearest mm?

9. Taya is running around a circular pond. She wants to run at least 26.2 miles before she stops. If the diameter of the pond is 1.2 miles, approximately how many times must she run around the pond to reach her goal?