Section 7.2

#24

$QUAD \sim KENT$ Find the perimeter of $QUAD$.
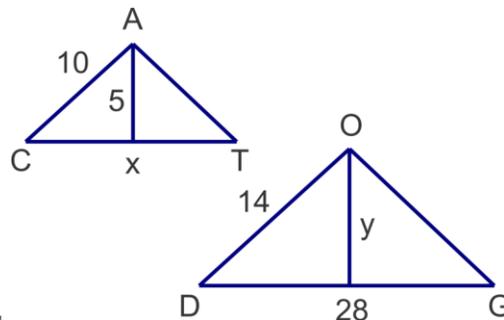
answer: 31

K   21   E
10   Q   U
      5
   D   A
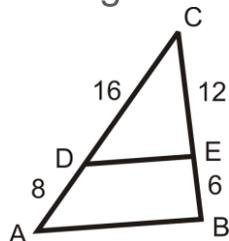T   N
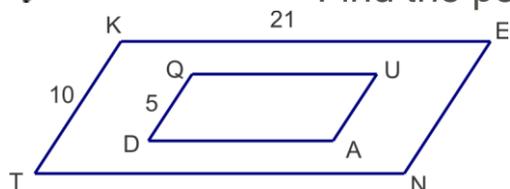
#25 (2 points)

answer: x=20, y=7

$\triangle CAT \sim \triangle DOG$ Solve for x and y.

A
10
   5
C   x   T

      O
14
      y
D   28   G

Section 7.5
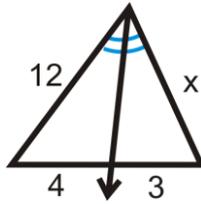
#11   answer: yes

Use the given lengths to determine if $\overline{AB} \parallel \overline{DE}$.

C
16   12
D   E
8   6
A   B

#15

Find the value of the missing variable(s).

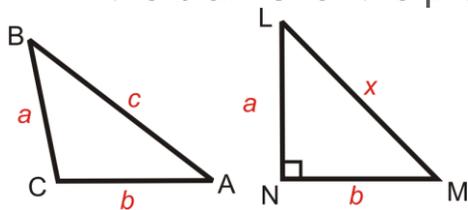answer: x=9

Section 7.6

#1 (2 points)   answer: (2,6)

Given A and the scale factor, determine the coordinates of the dilated point, A'. You may assume the center of dilation is the origin.

1. $A(3, 9), k = \frac{2}{3}$

Section 8.2

#22 (10 points)

Fill in the blanks for the proof.

Given: In $\triangle ABC, a^2 + b^2 < c^2$, where c is the longest side. In $\triangle LMN, \angle N$ is a right angle.

Prove: $\triangle ABC$ is an obtuse triangle.

Statement	Reason
1. In $\triangle ABC, a^2 + b^2 < c^2$, and c is the longest side. In $\triangle LMN, \angle N$ is a right angle.	

Statement	Reason
2. $a^2 + b^2 = h^2$	
3. $c^2 > h^2$	
4.	
5. $\angle C$ is the largest angle in $\triangle ABC$.	
6. $m\angle N = 90°$	
7. $m\angle C > m\angle N$	
8.	Transitive PoE
9. $\angle C$ is an obtuse angle.	
10. $\triangle ABC$ is an obtuse triangle.	

Section 8.4

1. In an isosceles right triangle, if a leg is x, then the hypotenuse is

   _____.

2. In a 30-60-90 triangle, if the shorter leg is x, then the longer leg is
   _____ and the hypotenuse is _____.

3. A square has sides of length 15. What is the length of the diagonal?

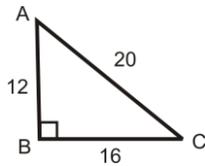4. A square's diagonal is 22. What is the length of each side?

5. A rectangle has sides of length 4 and $4\sqrt{3}$. What is the length of the diagonal?

6. A baseball diamond is a square with 90 foot sides. What is the distance from home base to second base? (HINT: It's the length of the diagonal).

Section 8.5

#14 (3 points)

Find the sine, cosine and tangent of $\angle A$. Reduce all fractions and radicals.
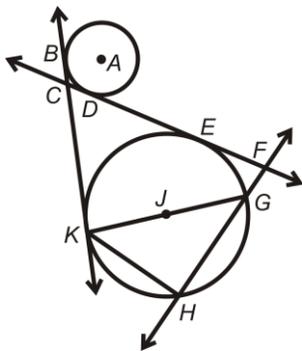

Section 8.6
#17

A 75 foot building casts an 82 foot shadow. What is the angle that the sun hits the building? answer: 47.6 degrees

Section 9.1

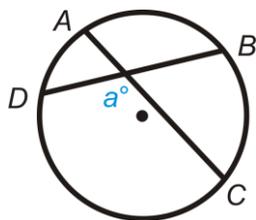Determine which term best describes each of the following parts of $\odot P$.

1. $\overline{KG}$

2. $\overleftrightarrow{FH}$

3. $\overline{KH}$

4. E

5. $\overleftrightarrow{BK}$

6. $\overleftrightarrow{CF}$

7. A

8. $\overline{JG}$

9. What is the longest chord in any circle?

Section 9.5

#31 (12 points)

Given: Intersecting chords $\overline{AC}$ and $\overline{BD}$

Prove: $m\angle a = \frac{1}{2}\left(m\widehat{DC} + m\widehat{AB}\right)$

HINT: Draw $\overline{BC}$ and use inscribed angles.

Total: 48 points