Geometry Honors
Semester 2 Review
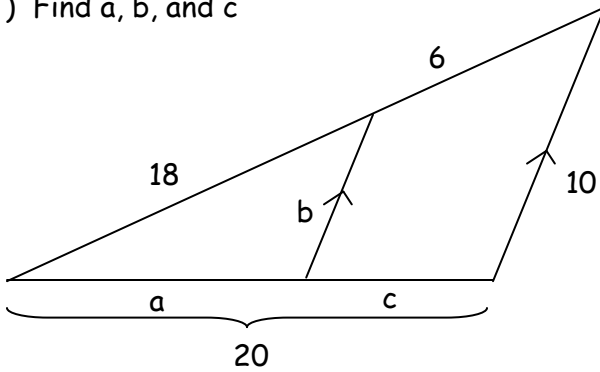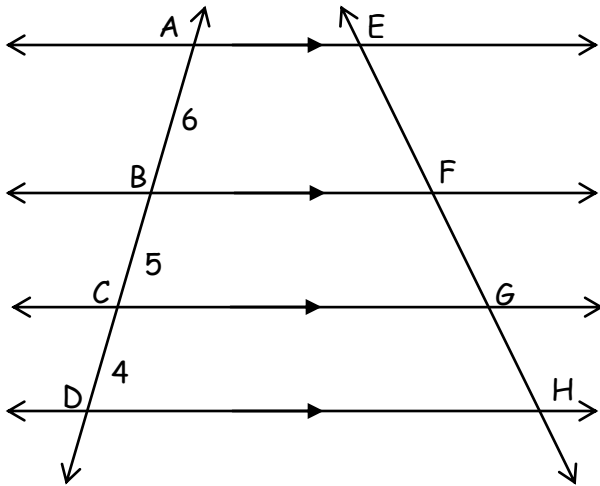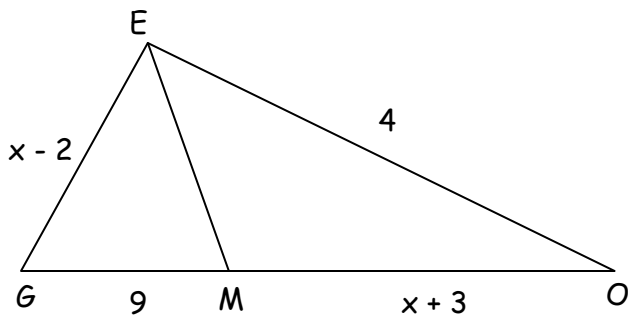
Name_____

<u>Chapter 8</u>
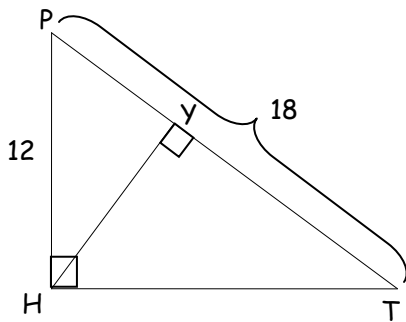
1) Find a, b, and c

2) Find EF, FG and GH if EH = 25

3) $\angle GEM \cong \angle MEO$. Find x.

1) Find HT. Leave EXACT answer.

P

y   18

12

H   T

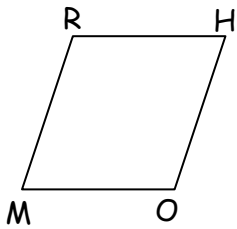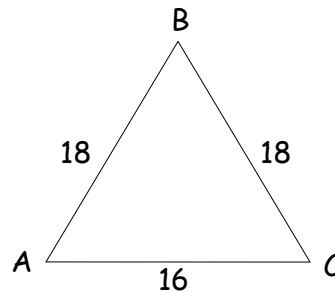2) Find x and y.

24

x   7

y
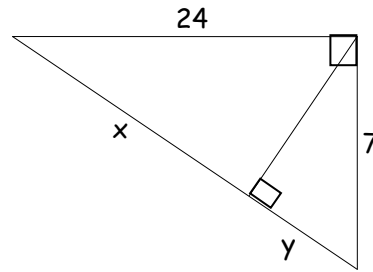
3) The perimeter of the rhombus RHOM is 48 and $\angle$R is 120°. Find the sum of the diagonals. (Do NOT use TRIG)

R   H

M   O

4) Find the largest interior angle of a rhombus with diagonals 16 and 30.

5) Find the measures of the three angles in a 7, 24, 25 triangle.

6) Find the measure of $\angle$ABC.

B

18   18

A   C
   16

7) In △ABC, sin A = $\frac{5}{13}$ and ∠C is a right angle. Find the following:
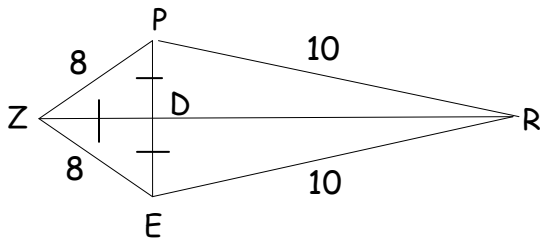
(Write answers as fractions and draw the triangle.)

   sin B =

   cos B =

   tan B =

8) Find the measure of ∠PRD to the nearest tenth of a degree for kite PREZ.

9) A person is standing on a cliff looking at a tree below. If the cliff is 250 feet high and the person has to look down with a 32° angle of depression to see the bottom of the tree, how far is the tree from the cliff?

Chapter 10

1) Given: $\overline{CD}$ is tangent to ⊙P
           $\overline{AB}$ is 12 units from the center of ⊙P
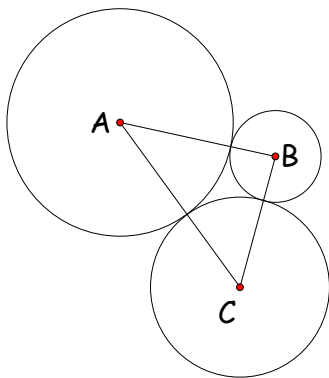   AB = 18; CP = 25
   Find BC

2) Find the common internal and external tangents of circles with centers 16 cm apart and radii 9 and 4.
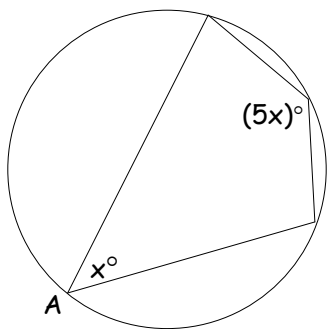   (Note: This can be done with coordinates too)
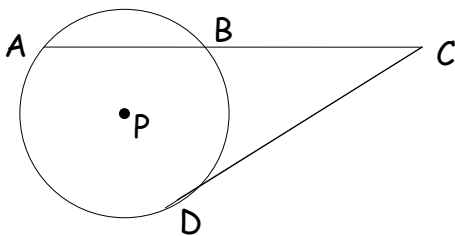
3) Determine the radius of ⊙B. Circles A, B, and C are tangent to each other.

AB = 17
BC = 19
AC = 24

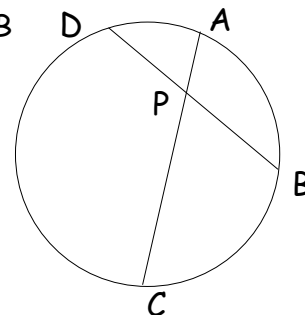4) In the diagram, find m∠A.

(5x)°

x°

A

5) Given: m AB = 72°
m DC = m ∠CPB

Find: m ∠APB

6) In ⊙O,
a) find the length of the altitude to $\overline{AB}$, a diameter.

b) find the area of the shaded segment.
(Chapter 11)

120°   C

$10\sqrt{3}$

A   O   B
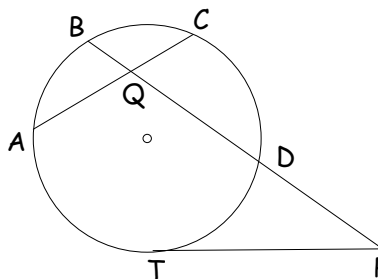
7) Given: PT is tangent to the circle.
BQ = 6, CQ = 16, DQ = 12, DP = 8

Find: AQ and PT (exact answers)
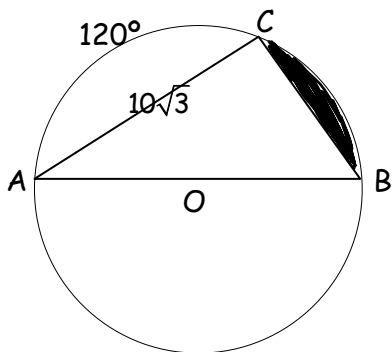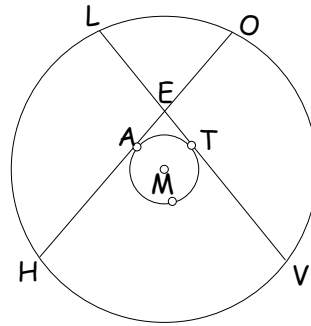
8) Circles A and B are externally tangent and a belt is wrapped tightly around them. ⊙A has a diameter of 8 and ⊙B has a diameter of 24. Find the exact length of the belt.
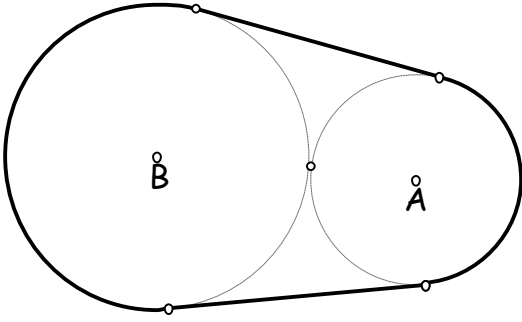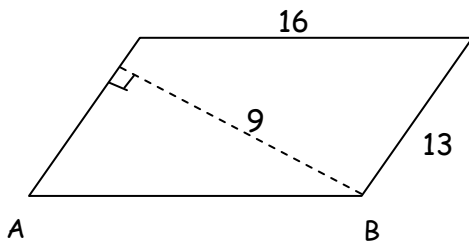

9) Given: Two circles are concentric with center M
$\overline{LV}$ and $\overline{OH}$ are tangent to smaller circle
$m\,AT = 70°$, $m\,LO = 15°$.
   Find $m\,HV$.

Chapter 11

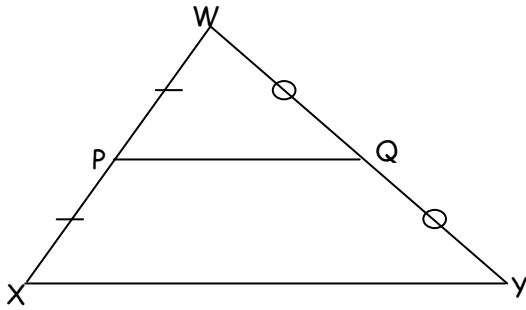1) Find the area of a triangle with side lengths of 5, 10, and $5\sqrt{3}$.

2) In the parallelogram below, find the height to $\overline{AB}$.

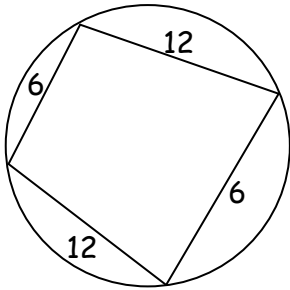3) If a square has a diagonal of $4\sqrt{7}$, find its area.

4) The ratio of the diagonals of a kite is 4:5. If the area of the kite is 420, find the longer diagonal.

5) Find the ratio of the areas of △WPQ and Trap PQYX

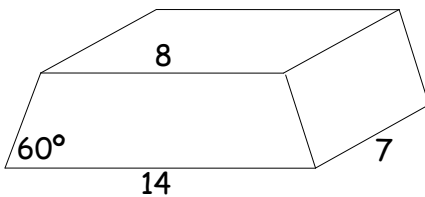6) Find the EXACT area of the quadrilateral.

7) An isosceles trapezoid has lengths 70, 80, 70, 124.   Find the altitude.
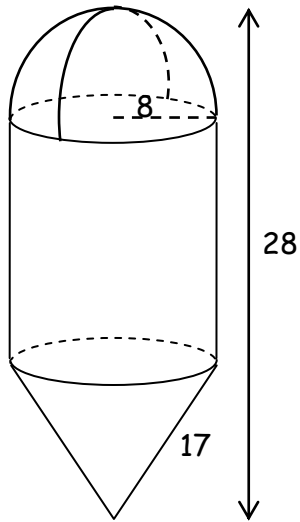
Chapter 12

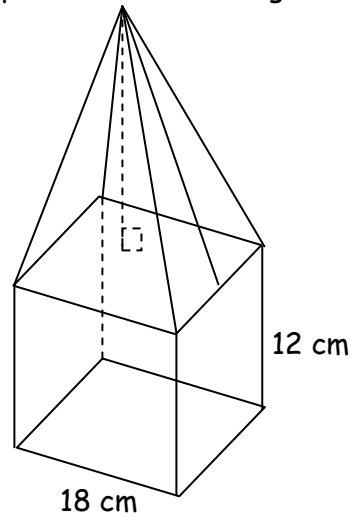1) Find the **Total Surface Area** and **Volume** for the following solids:
a) Right Isosceles Trapezoidal Prism
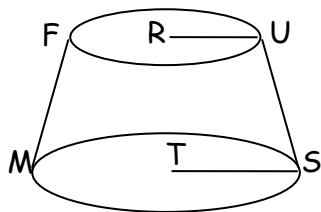
b) Hemisphere on a cylinder on a cone.

c) Regular square pyramid with a rectangular prism with slant height 15 cm.

8

28

17

12 cm

18 cm

2) Given: RU = 5, TS = 8, ∠UST = 45°
   Find the LATERAL AREA of the frustum.

F   R——U

M   T   S

1) The point $(x, 6)$ is equidistant from the points $(3, 8)$ and $(-5, -2)$. Find the missing coordinate.

2) Write the equation of a line that passes through $(3, -2)$ and $(7, 1)$.

3) Write the equation of a line in slope-intercept form that has a slope of -2 and passes through the point $(-4, 5)$.

4) Write an equation of a line that is perpendicular to the line with an equation of $3x + 2y = 6$ and passes through the point $(-2, 4)$.

5) Write the equation of the circle whose endpoints of a diameter are $(-2, 4)$ and $(4, -2)$.

6) Find the center and radius of the circle: $4x^2 + 4y^2 - 12x + 16y - 48 = 0$.

7) Find the intersection point(s) of the circle $x^2 + (y + 2)^2 = 26$ and the line $-x + y = 4$.