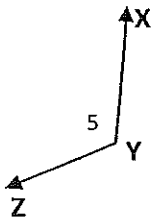
2D Geometry Test Review

Name: _____

Grade Math

1)



Name the vertex and sides of the angle shown above.

∠Y

Sides are $\overline{ZY}$ and $\overline{XY}$

2) Name the angle shown in #1 four ways

∠Y

∠XYZ

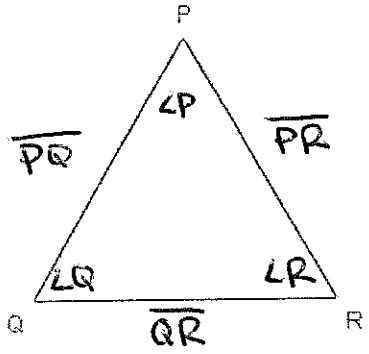
∠ZYX

∠5

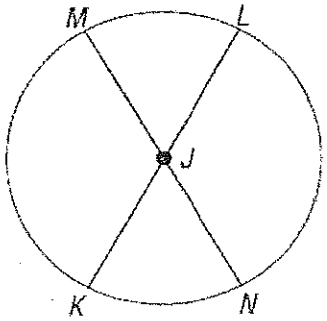
3) Draw a triangle that has two equal sides and name it.

isosceles

4) Label all the sides and angles of the triangle below.



5)



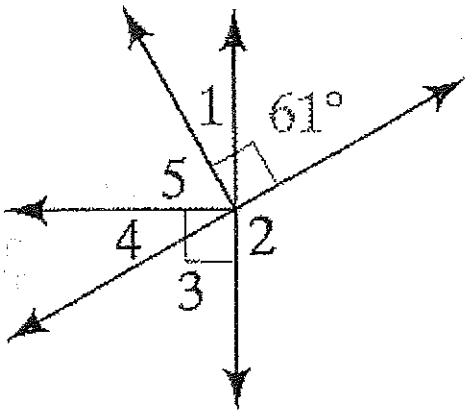
Look at the circle to the left and name...

the circle: J

two diameters: $\overline{MN}$ $\overline{KL}$

four radii: $\overline{MJ}$ $\overline{JN}$ $\overline{LJ}$ $\overline{KJ}$

6) Use the picture to the right to answer the following (list all that apply):



a) <3 and <4 are what type of angles?

Complementary

b) <2 and the angle with the m<61° are what type of angles?

supplementary

c) <2 and <3 are what type of angles?

supplementary

d) <5 and <4 are what type of angles?

Complementary

7) Find the measure to the following angles

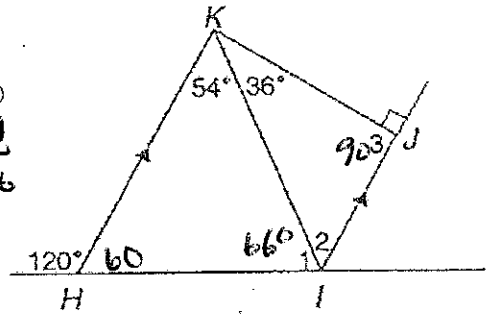
a) <1 = 66°

b) <2 = 54°

c) <3 = 90°

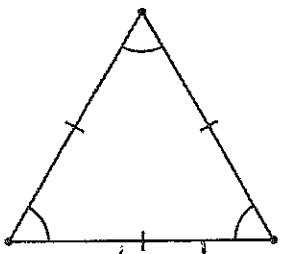
54 + 60 = 114 ; 180 − 114 = 66

36 + 90 = 126 ; 180 − 126 = 54



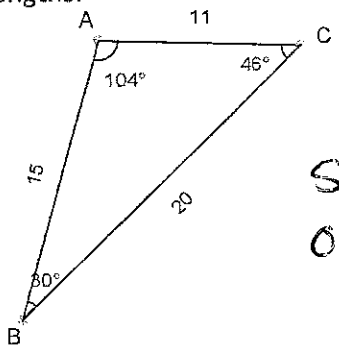
8) Classify the following triangles by their angles and sides lengths.

a)



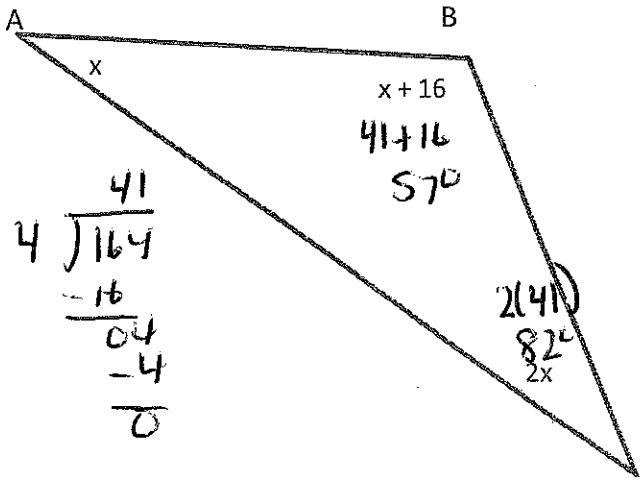
equilateral
acute

b)



scalene
obtuse

9) *Find "x" and the missing angles.*



x + x + 16 + 2x = 180

4x + 16 = 180

−16 −16

4x = 164

4 4

x = 41

41 + 16 = 57°

2(41) = 82°

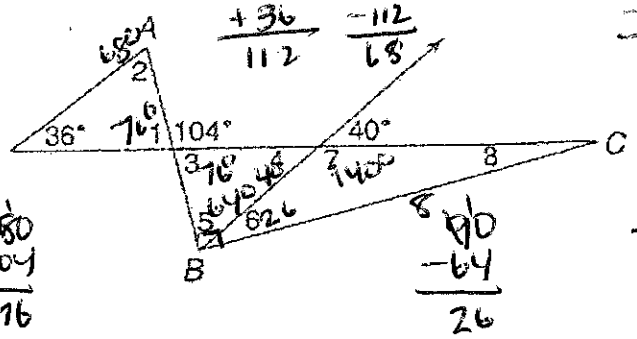
4) 164 ; −16 ; 04 ; −4 ; 0

m<A = 41°

m<B = 57°

m<C = 82°

10) Find the measures of the following angles:

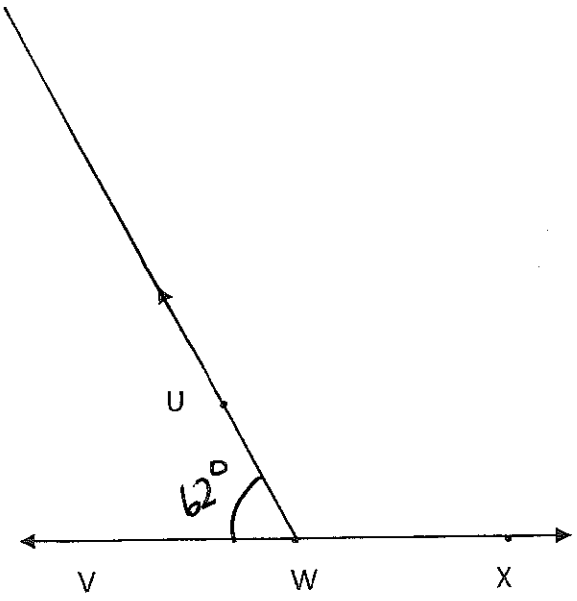


<ABC is a right angle

m<1 = 76° m<2 = 68° m<3 = 76° m<4 = 40°

m<5 = 64° m<6 = 26° m<7 = 140 m<8 = 14°

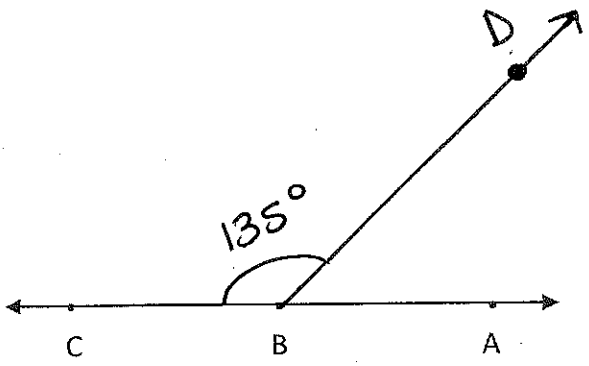
11)



Find m<UWV using your protractor

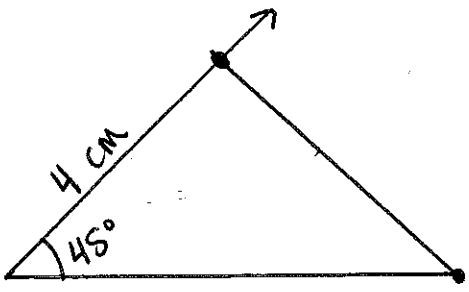
62°

12)



Draw <DBC = 135°

13) Use your protractor and ruler to draw a triangle with and angle of 45°, a side of 6 cm, and another side of 4 cm.



14) Can the following sides be lengths to a triangle? Show you work to explain

a) 12, 4, 17

$4+12=16 \not> 17$

No they can't form a triangle.

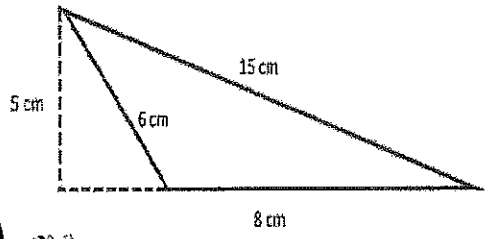
b) 3, 4, 7

$3+4=7 \not> 7$

No they can't form a triangle.

15) Find the area and perimeter of the following triangles.

a)



Area

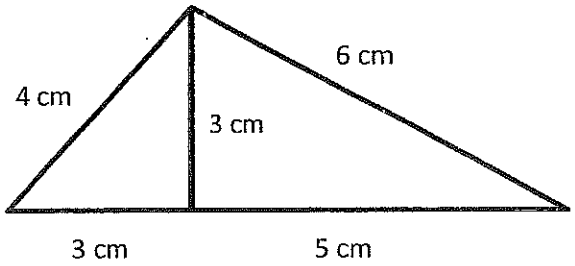
$A = \frac{1}{2} \cdot b \cdot h$

$= \frac{1}{2} \cdot 8 \cdot 5 = 20 cm^2$

Perimeter

$6+8+15 = 29 cm$

b)



Area

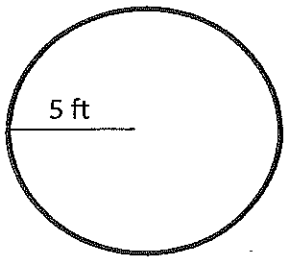
$A = \frac{1}{2} b h$

$= \frac{1}{2} 8 \cdot 3 = 12 cm^2$

Perimeter

$4+3+5+6 = 18 cm$

16) Find the area and circumference of the circle.



Area $= \pi r^2$

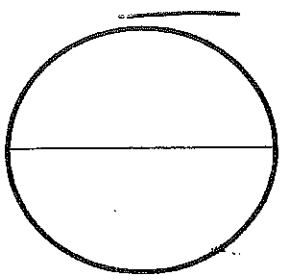
$3.14 \cdot 5 \cdot 5 = 78.5 ft^2$

Circumference $= 2\pi r$

$= 2 \cdot 3.14 \cdot 5$

$= 31.4 ft$

17) Find the diameter of the circle



Area = 28.26 cm^2

$A = \pi r^2$

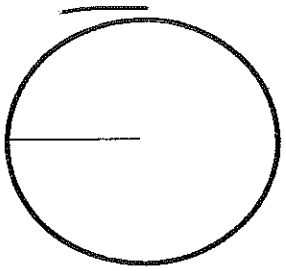
$\frac{28.26}{3.14} = \frac{3.14 \cdot r^2}{3.14}$

$\sqrt{9} = \sqrt{r^2}$

$3 = r$

$3 \times 2 = 6 = \text{diameter}$

18) Find the radius of the circle



Circumference = 81.64 m

$C = 2\pi r$

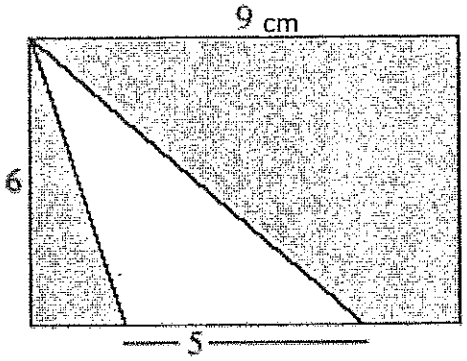
$81.64 = 2 \cdot 3.14 \cdot r$

$\frac{81.64}{6.28} = \frac{6.28\, r}{6.28}$

$13\text{m} = r$

For the following problems, find the area of the shaded region.

19)



rect

$6 \cdot 9$

54

tri

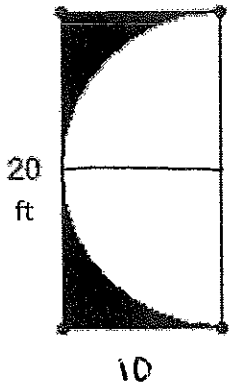
$\frac{1}{2} \cdot 5 \cdot 6$

15

$\begin{array}{r} 4\,\overset{1}{5}\overset{1}{4} \\ -15 \\ \hline \end{array}$

$39\ cm^2$

20)



rect

$10 \cdot 20$

200

½ circle

πr^2

$3.14 \cdot 10 \cdot 10$

$\frac{314}{2} = 157$

$\begin{array}{r} 200 \\ -157 \\ \hline \end{array}$

$43\ ft^2$

Answers:

1) Y, $\overline{YZ}$, $\overline{YX}$

2) <Y, <5, <XYZ, <ZYX

3) -

4) $\overline{PR}$, $\overline{RQ}$, $\overline{QP}$, <P, <R, <Q

5) Circe J, $\overline{LK}$ & $\overline{MN}$, $\overline{JN}$ $\overline{JK}$ $\overline{JL}$ $\overline{JM}$

6) a) comp/adj b) supp/adj c) supp/adj d) comp/adj

7) a) 66 b) 54 c) 90

8) a) equilateral/acute b) scalene/obtuse

9) x=41, m<A=41, m<B=57, m<C=82

10) 76, 68, 76, 40, 64, 26, 140, 14

11) 62

12) -

13) -

14) a) no b) no

15) a) A=20 cm^2, P=29 cm b) A=12 cm^2, P=18 cm

16) A=78.5 ft^2, C=31.4 ft

17) 6 cm

18) 13 m

19) $54 - 15 = 39\ cm^2$

20) $200 - 157 = 43\ ft^2$