Geometry Worksheet 6.1-4

Name _____ Key
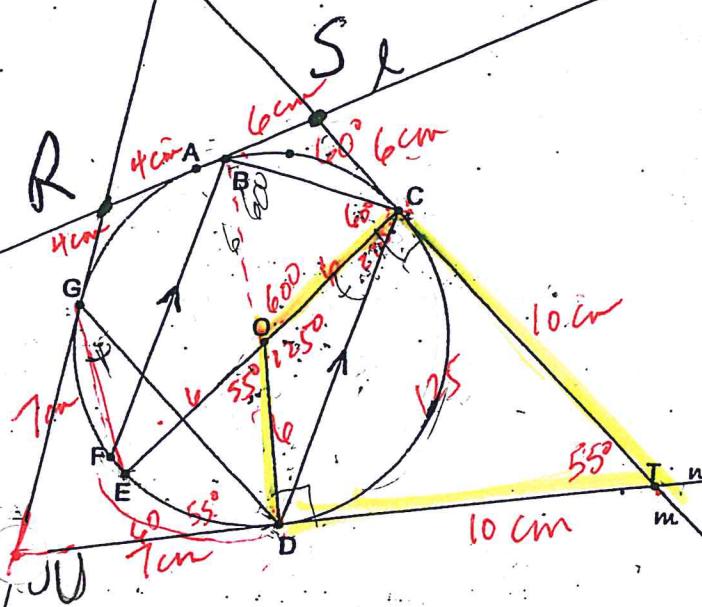
Lines l, m, n, and p are tangent to circle O (O is the center)

m$\overarc{BC}$ = 60°   m$\overarc{DC}$ = 125°
EC = 12 cm   r = 6   DT = 10 cm
UR = 11 cm   RA = 4 cm
SC = 6 cm

1) m∠DOC = ___125°___

2) m$\overarc{FD}$ = ___60°___ (parallel chords)
   (60-55)

3) n$\overarc{FE}$ = ___5°___

4) m∠DOE = ___55°___

5) m∠CTD = ___55°___

6) m∠ECB = 60° 27.5° (½ of 55)

7) perimeter of DTCO = ___32___

8) Are $\overline{FB}$ and $\overline{CD}$ congruent?
   Why or why not?
   no; they are not between parallel chords

9) Are $\overline{OC}$ and $\overline{CB}$ congruent?
   Why or why not?
   yes; △BOC is equilateral

10) perimeter of UTSR = ___54___ see sketch

11) m∠EGD = ___27.5°___

12) m∠DCB = ___87.5°___ (60+27.5)

60+60+125 = 245°   360-245 = 115° not 125°

m∠EOD = **80°**

m∠OBC = **50°**

m∠ABC = **90°**

$m\overset{\frown}{DC}$ = **65°**

m∠ACB = **50°**

100°

35°

50°

O is the center

Points labeled: A, E, O, B, D, C
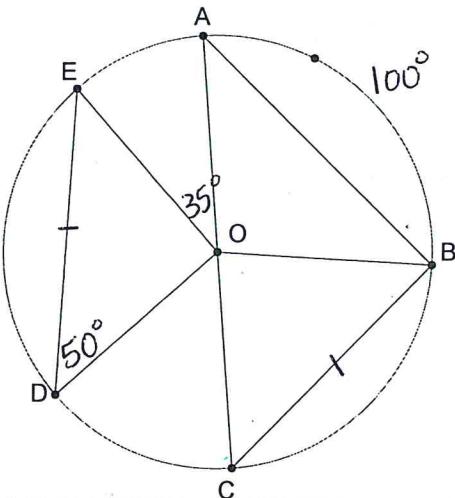
Sketch the following:

6) Externally tangent circles

7) Internally tangent circles

8) Common internal tangent $\overleftrightarrow{AB}$ and common external tangent $\overleftrightarrow{CD}$.

Q

P
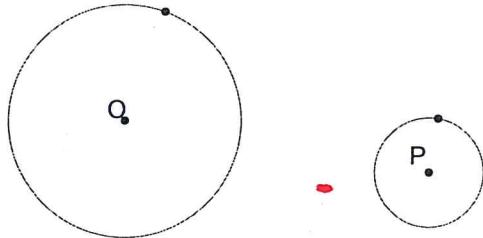
9) Three externally common tangents to circles Q and N.

Q

N

m

71°

n

x

y
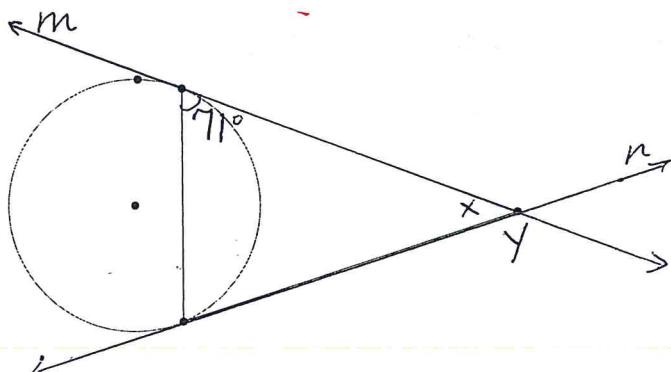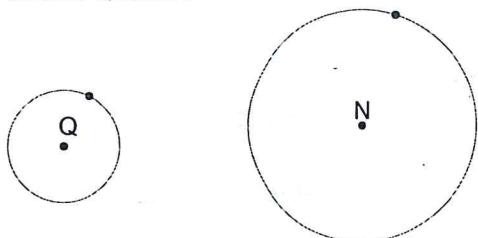
10) Lines m and n are tangent lines.

Find x and y.

x = **38°**   y = **142°**