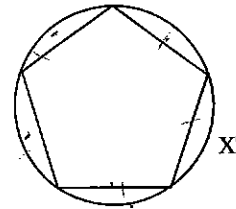9.1-9.4 Rev.

Always, Sometimes, Never

1.) A radius that meets a tangent of a circle is perpendicular to this tangent. **A**

2.) 2 circles have 4 common tangents. **S**
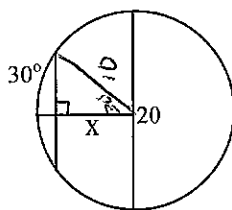
3.) Congruent chords have congruent arcs. **Sometimes**

must have same circle, or ≅ circles

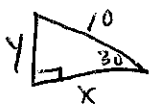This is a regular pentagon inscribed in this circle. Find the value of x

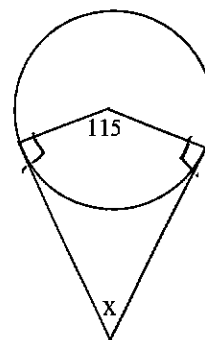$$\frac{360}{5} = 72°$$

Find the value of x

$X = 5\sqrt{3}$

$Y = 5$

$LL = SL\sqrt{3}$

$X = 5\sqrt{3}$

Find the value of x
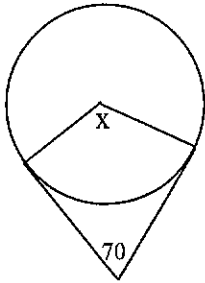

$115 + 90 + 90 + X = 360$

$X + 295 = 360$

$X = 65°$
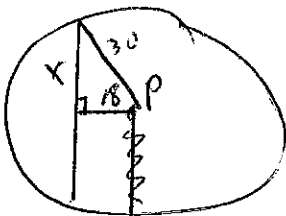
1

Find the value of x

$$x + 90 + 90 + 70 = 360$$
$$x + 250 = 360$$
$$\boxed{x = 110°}$$

How many common tangents will 2 internally tangent circles share?

1

The radius of circle P is 30 cm. What is the length of a chord that is 18 cm from the center?
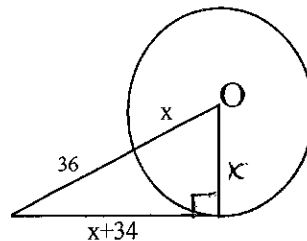

$$x^2 + 18^2 = 30^2$$
$$x^2 + 324 = 900$$
$$x^2 = 576$$
$$x = 24$$
$$\boxed{Chord = 48 \, cm}$$

Find the value of x using circle O below:
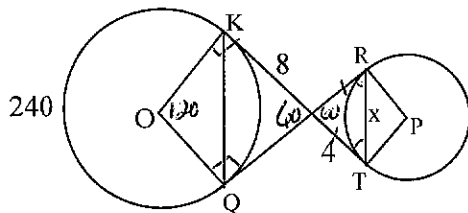

$$x^2 + (x + 34)^2 = (x + 36)^2$$
$$x^2 + x^2 + 68x + 1156 = x^2 + 72x + 1296$$
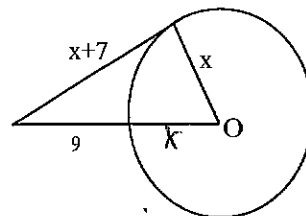$$x^2 - 4x - 140 = 0$$
$$(x - 14)(x + 10) = 0$$
$$\boxed{x = 14} \text{ or } x = -10$$

2

O and P are centers of circles with points of tangency K, Q, R, and T. Find RT.

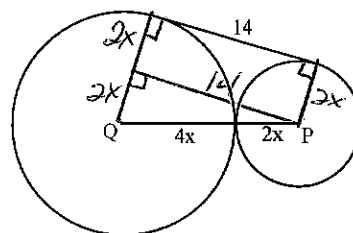

240

$$\boxed{x=4}$$

Find the value of x

$$x^2+(x+7)^2=(x+9)^2$$
$$x^2+x^2+14x+49=x^2+18x+81$$
$$x^2-4x-32=0$$
$$(x-8)(x+4)=0$$
$$\boxed{x=8}$$

How many internal tangents do two externally tangent circles share?

one

Q and P are the centers of these tangent circles. Find the value of x.

$$(2x)^2+14^2=(6x)^2$$
$$4x^2+196=36x^2$$
$$\frac{196}{32}=\frac{32x^2}{32}$$

or

$$\frac{49}{8}=x^2 \qquad 6.125=x^2$$

$$\frac{7}{2\sqrt{2}}=x \qquad \boxed{2.47\approx x}$$

$$\frac{7\sqrt{2}}{4}=x \qquad \boxed{7\sqrt{2}} \quad \boxed{x=\frac{7\sqrt{2}}{4}}$$

3

Circle P has radii $\overline{PB}$ and $\overline{PA}$ that meet at a 120 degree angle. If the diameter of the circle is 26 in, what is the length of $\overline{AB}$?

$x = \dfrac{13\sqrt{3}}{2}$

$AB = 13\sqrt{3}$