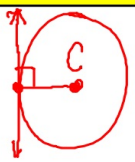
9-2 Tangents

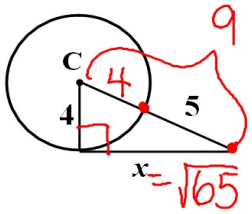
std. 7.0

Feb 15

A line that is tangent to a circle is perpendicular to the radius at the point of tangency.



ex. 1



find x

$9^2 = 4^2 + x^2$

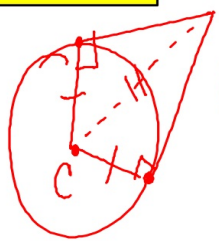
$\sqrt{65} = \sqrt{x^2}$

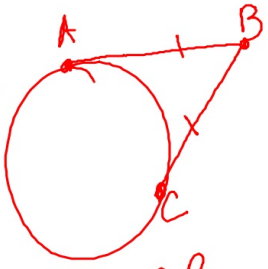
Tangents to a circle from a point are congruent.

Why?

$\triangle$s $\cong$ by HL

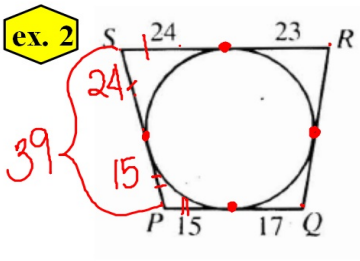
& use CPCTC





AB = CB

ex. 2

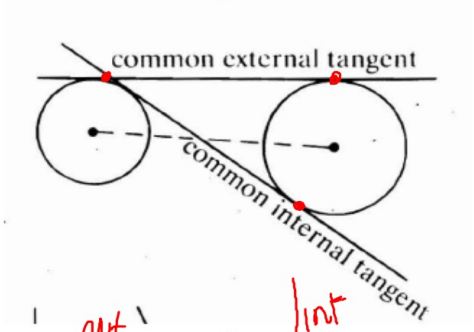


find *SP*

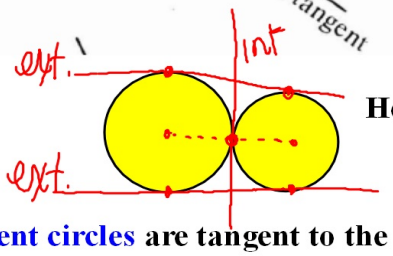
$\overline{SR}, \overline{PQ}, \overline{RQ}, \overline{SP}$ are tangents

Quadrilateral *PQRS* is circumscribed about the circle.
The circle is inscribed in quadrilateral *PQRS*.

A common tangent is a line that is tangent to each of 2 coplanar circles.



A common internal tangent intersects the segment connecting the centers, but a common external tangent does not.



How many common tangents? 3

Tangent circles are tangent to the same line at the same point.