

### §9-7 Special Segments in a Circle

#### Theorem

For any 2 chords that intersect in a circle, the product of the parts of the first chord is equal to the product of the parts of the second chord.

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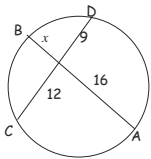
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### Example 1: Find the value of $x$ .




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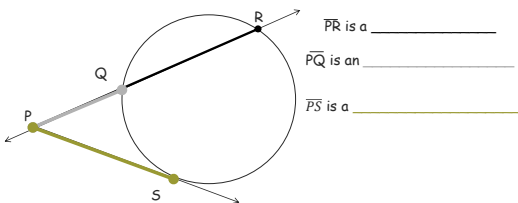
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### Definitions



$\overline{PR}$  is a \_\_\_\_\_

$\overline{PQ}$  is an \_\_\_\_\_

$\overline{PS}$  is a \_\_\_\_\_

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### [ Theorem ]

For any 2 secant segments that share an external endpoint, the product of the external secant segments and their corresponding secant segments are equal.

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### [ Theorem ]

For any secant segment and tangent segment that intersect outside a circle...

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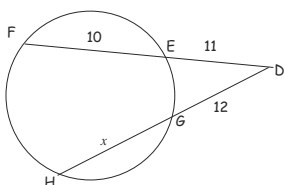
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### [ Example 2 ]

Find the value of  $x$ .




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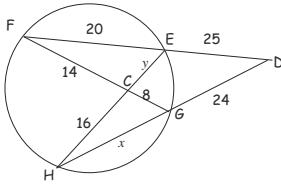
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### Check Point

Find the values of  $x$  and  $y$  (leave as a mixed number where necessary).




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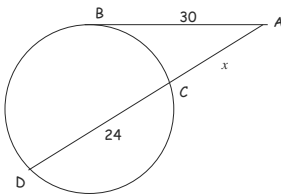
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### Example 3

Find the value of  $x$ .




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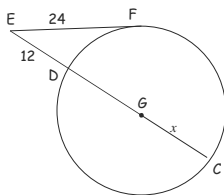
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### On your own...

Find the value of  $x$ .




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