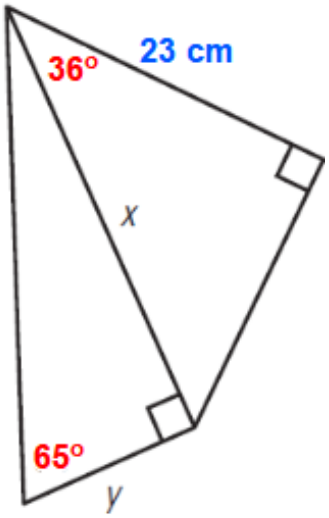
Section 4.2: Solving Complex Problems in the Real World

The problems in this lesson:

- will involve two or more triangles .
- will require multiple steps
- You may need to find a value in one triangle in order to find values in the other triangle
    - This is often a **common side** for both of the triangles in the problem

Example: Calculate x and y in the following diagram:



Side x is a common side to both right triangles.

Calculate the length of side x:

Now that we have the length of side x, we can use that answer to find side y:

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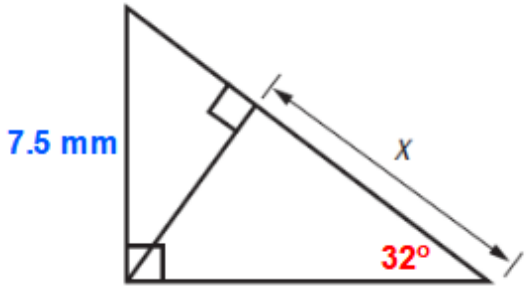
- In a diagram that involves three triangles (or more), it is likely that only one of the triangles will have enough information to allow you to solve for anything.

- Examine these types of diagrams carefully to determine which triangle will allow you to begin to solve the problem.

Example:

Calculate x in the following diagram.

(Hint: you will need to find a different side first)



Check your understanding: pg. 215 - 216, #1, 2, 3