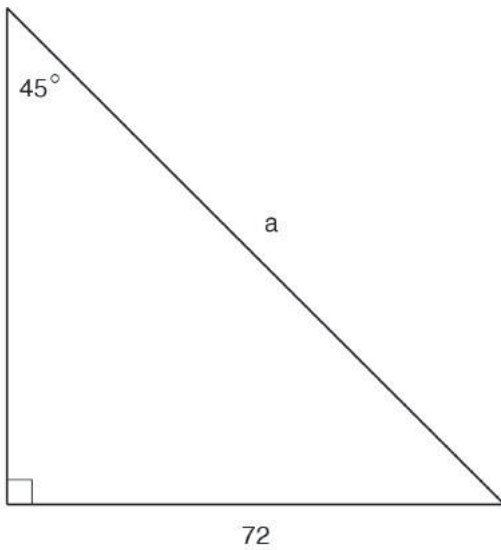


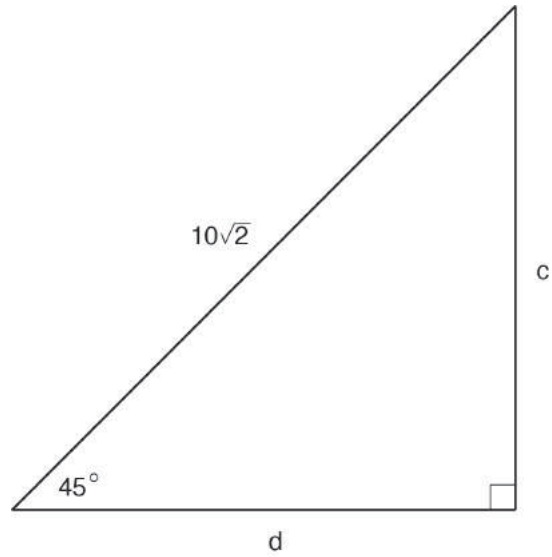
Solving Problems with 45-45-90 Triangles, part 1

Use our class conjecture to determine the exact lengths. Assume all measurements are in centimeters unless otherwise stated.

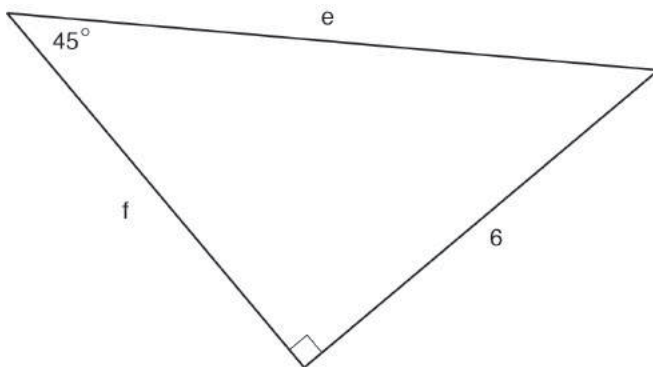
1. $a = \underline{\hspace{1cm}}$ $b = \underline{\hspace{1cm}}$



2. $c = \underline{\hspace{1cm}}$ $d = \underline{\hspace{1cm}}$

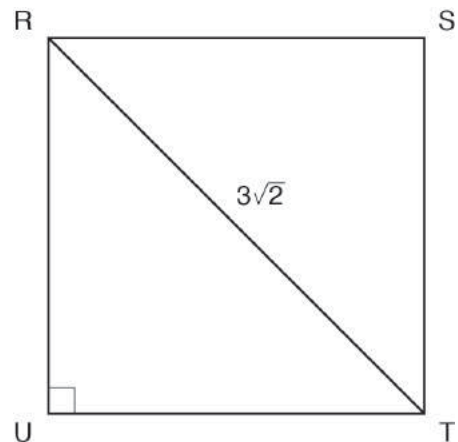


3. $e = \underline{\hspace{1cm}}$ $f = \underline{\hspace{1cm}}$



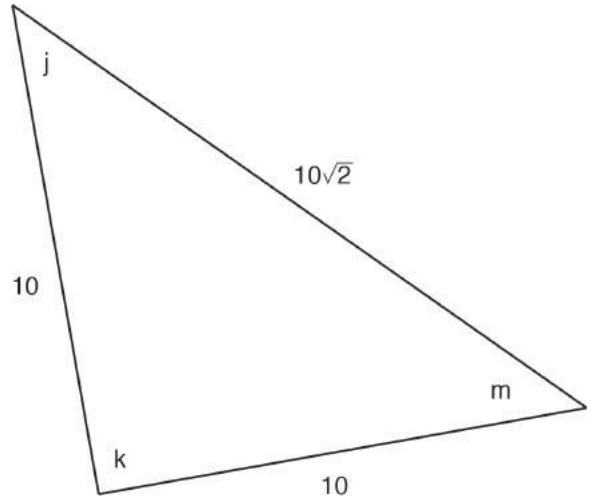
4. What is the perimeter of square RSTU?

Perimeter = $\underline{\hspace{1cm}}$



5. Consider the triangle at the right with length measures shown, and angle measures j , k , and m .

Do these lengths form a right triangle?
How do you know?

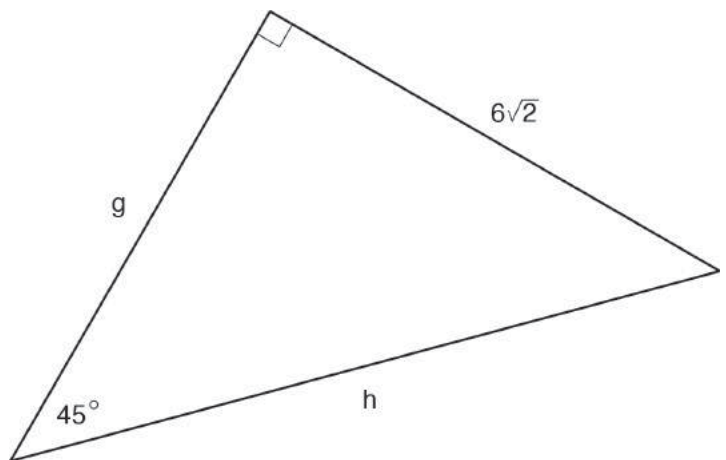


6. Determine the angle measures for the triangle in Problem 5.

$j = \underline{\hspace{2cm}}$ $k = \underline{\hspace{2cm}}$ $m = \underline{\hspace{2cm}}$

7. Determine the exact lengths for g and h .

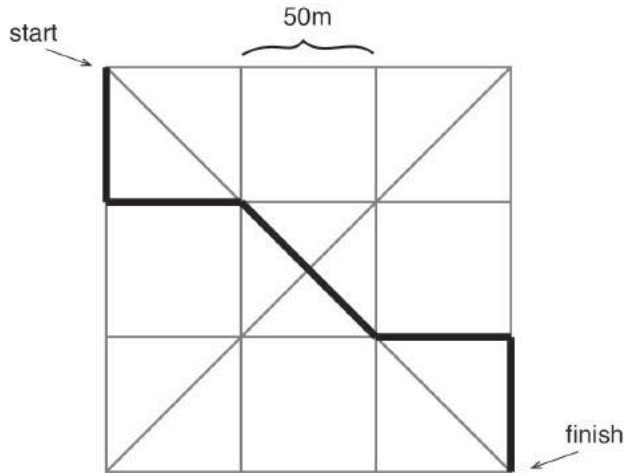
$g = \underline{\hspace{2cm}}$ $h = \underline{\hspace{2cm}}$



8. A botanical garden is made up of 9 large square sections. Each square section measures 50 meters on a side as shown.

Walkways are built along the edges of the square sections, and along two large diagonals that pass through the whole garden. The walkways are shown in gray.

You take a walk in the garden, following the path shown in black.



- a. What is the distance you walked in the garden? Express the distance exactly.
- b. Use a calculator and approximate the distance you walked in the garden to the nearest meter.