

TOPIC: SPECIAL RIGHT TRIANGLES

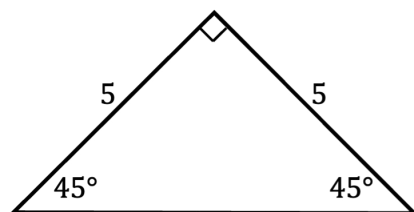
45-45-90 Triangles

◆ In triangles with 45° angles, the 2 legs are always the _____ length.

► The hypotenuse will always be a multiple of the leg length, which you can find using:

Recall

$$a^2 + b^2 = c^2$$



New

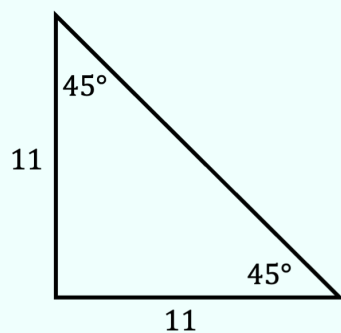
$$\text{hyp} = \text{leg} \cdot \underline{\hspace{1cm}}$$

(45 – 45 – 90)

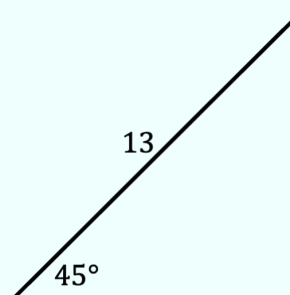
EXAMPLE

Solve for the unknown side(s) of each triangle.

(A)



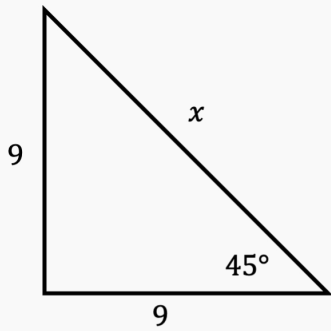
(B)



TOPIC: SPECIAL RIGHT TRIANGLES

PRACTICE

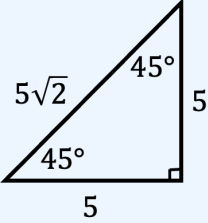
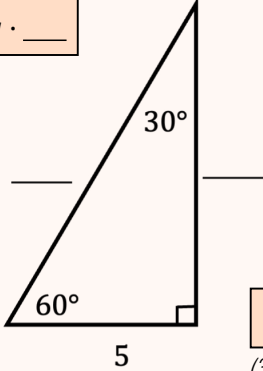
Given the triangle below, determine the missing side(s) without using the Pythagorean Theorem (make sure your answer is fully simplified).



TOPIC: SPECIAL RIGHT TRIANGLES

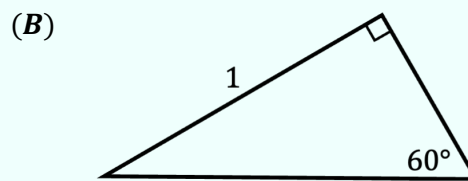
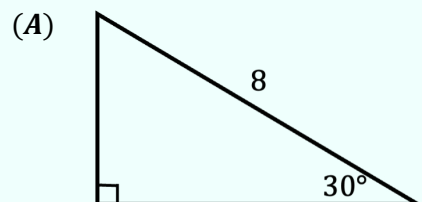
30-60-90 Triangles

◆ For the 30-60-90 triangle, relate side lengths to the *shortest* leg.

Recall	45 – 45 – 90	New	30 – 60 – 90
	 $hyp = leg \cdot \sqrt{2}$ (45 – 45 – 90)		 $hyp = short\ leg \cdot ______$ (30 – 60 – 90) $long\ leg = short\ leg \cdot ______$ (30 – 60 – 90)

EXAMPLE

Solve for the unknown side(s) of each triangle.



TOPIC: SPECIAL RIGHT TRIANGLES

PRACTICE

Given the triangle below, determine the missing side(s) without using the Pythagorean Theorem (make sure your answer is fully simplified).

