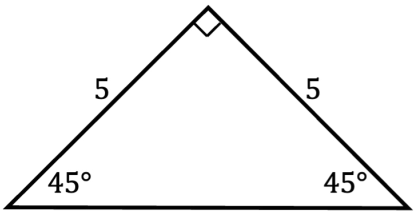
TOPIC: SPECIAL RIGHT TRIANGLES

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

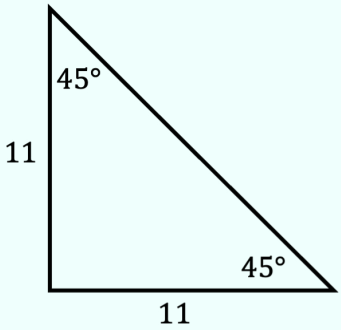


_____

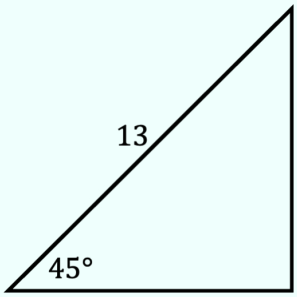
New
$hyp = leg \cdot \_\_\_$
(45 – 45 – 90)

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

(A)



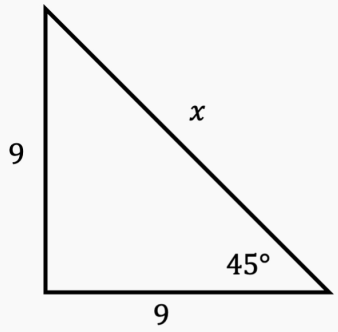
(B)



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).

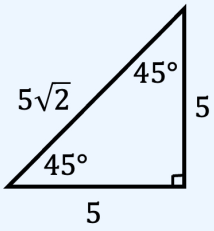


TOPIC: SPECIAL RIGHT TRIANGLES

30-60-90 Triangles

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

Recall: 45 – 45 – 90



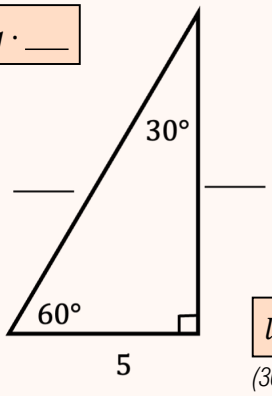
$hyp = leg \cdot \sqrt{2}$

(45 – 45 – 90)

New: 30 – 60 – 90

$hyp = short\ leg \cdot \_\_\_$

(30 – 60 – 90)

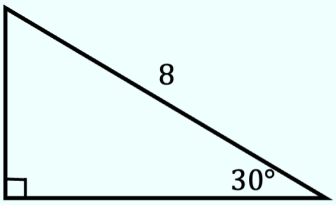


$long\ leg = short\ leg \cdot \_\_\_$

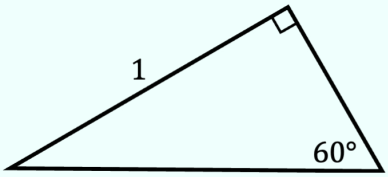
(30 – 60 – 90)

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

(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).