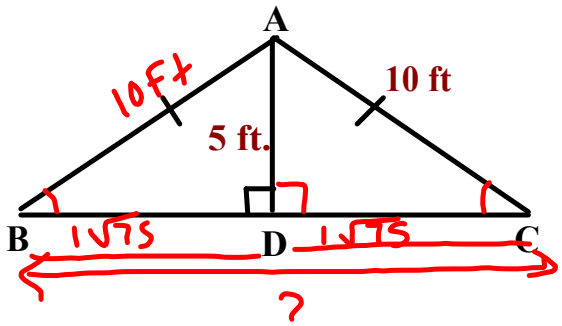
Warm Up

$c =$

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

$a^2 = c^2 - b^2$



In isosceles ΔABC, what is the length of BC? Write your answer as a mixed radical.

$\sqrt{75} \times 2$

$= 2\sqrt{75}$

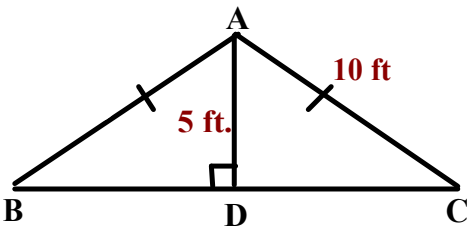
$a^2 = c^2 - b^2$

$a^2 = 10^2 - 5^2$

$a^2 = 100 - 25$

$\sqrt{a^2} = \sqrt{75}$

$a = \sqrt{75}$



In isosceles ΔABC, what is the length of BC? Write your answer as a mixed radical.

In ABD Find $\overline{BD}$

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

$a^2 = c^2 - b^2$
$a^2 = 10^2 - 5^2$
$a^2 = 100 - 25$
$a^2 = 75$
$a = \sqrt{75}$

Therefore $\overline{BD} = \sqrt{75}$

△ABD is congruent to △ ACD

Therefore in △ ADC $\overline{DC} = \sqrt{75}$

Side BD + Side DC = Side BC

$\sqrt{75} + \sqrt{75} = 2\sqrt{75}$

Reduce $2\sqrt{3 \times 5 \times 5}$
$2 \times 5\sqrt{3}$
$10\sqrt{3}$