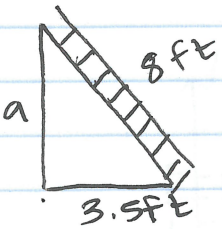
⊙ Pythagorean Theorem - 2D and 3D

Ex. An 8ft ladder is placed 3.5 ft from the base of a wall. How high up the wall will the ladder reach?



$a^2 + 3.5^2 = 8^2$

$a^2 + 12.25 = 64$

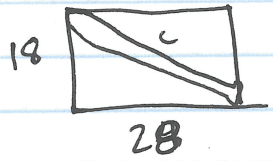
$-12.25 \quad -12.25$

$\sqrt{a^2} = \sqrt{51.75}$

$a \approx 7.2$ Ft

complete Explore! Pg. 105 steps 1-4

①



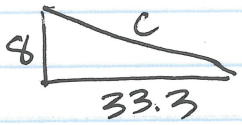
$18^2 + 28^2 = c^2$

$324 + 784 = c^2$

$\sqrt{1108} = \sqrt{c^2}$

$33.3 \approx c$ NO

②



$8^2 + 33.3^2 = c^2$

$64 + 1108 = c^2$

$\sqrt{1172} = \sqrt{c^2}$

$34.23 = c$

③ $a^2 + b^2 + c^2 = d^2$

length, width, height, hypotenuse