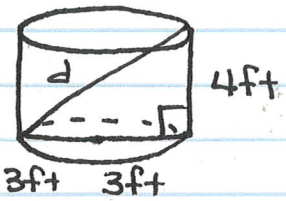
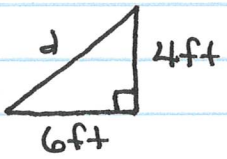
Pythagorean Theorem in 3-D

Determine the length of the unknown part of the figure. Round to the nearest tenth, as needed.

Ex:)





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

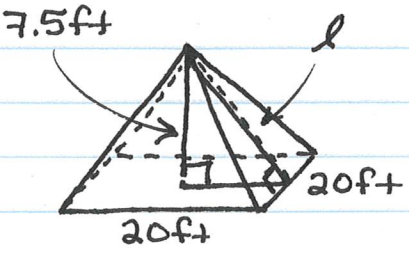
$(6)^2 + (4)^2 = (d)^2$

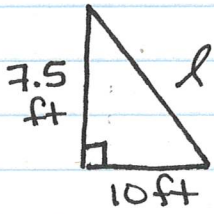
$36 + 16 = d^2$

$\sqrt{52} = \sqrt{d^2}$

$d \approx 7.2\text{ft}$

Ex:)





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

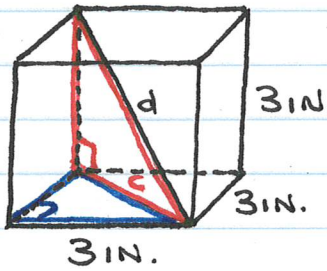
$(7.5)^2 + (10)^2 = (\ell)^2$

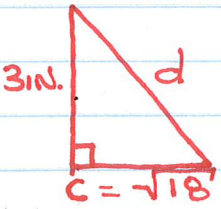
$56.25 + 100 = \ell^2$

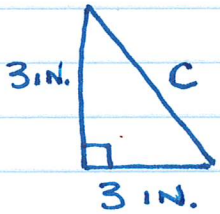
$\sqrt{156.25} = \sqrt{\ell^2}$

$\ell = 12.5\text{ft}$

Ex:)







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

$(3)^2 + (\sqrt{18})^2 = (d)^2$

$9 + 18 = d^2$

$\sqrt{27} = \sqrt{d^2}$

$d \approx 5.2\text{ IN.}$

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

$(3)^2 + (3)^2 = c^2$

$9 + 9 = c^2$

$\sqrt{18} = \sqrt{c^2}$

$c = \sqrt{18}$