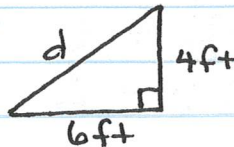
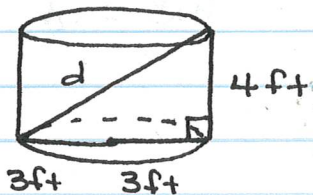


PYTHAGOREAN THEOREM IN 3-D

DETERMINE THE LENGTH OF THE UNKNOWN PART OF THE FIGURE. ROUND TO THE NEAREST TENTH, AS NEEDED.

Ex:)



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

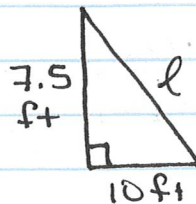
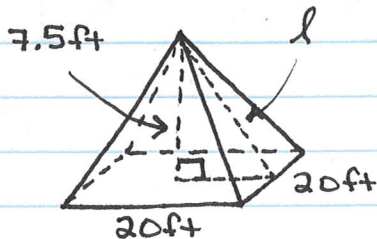
$$(4)^2 + (6)^2 = (d)^2$$

$$16 + 36 = d^2$$

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

$$d \approx 7.2 \text{ ft}$$

Ex:)



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

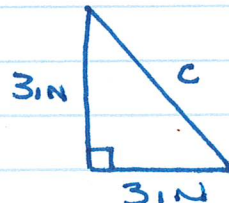
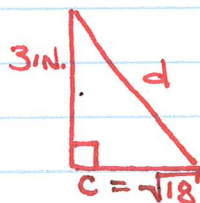
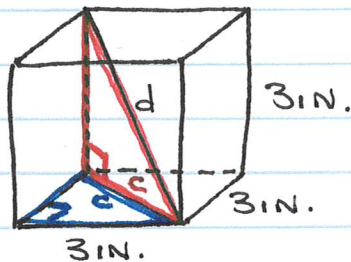
$$(7.5)^2 + (10)^2 = (l)^2$$

$$56.25 + 100 = l^2$$

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

$$l = 12.5 \text{ ft}$$

Ex:)



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

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

$$9 + 18 = d^2$$

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

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

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

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

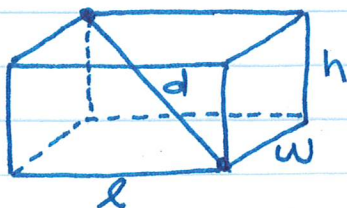
$$9 + 9 = c^2$$

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

$$c = \sqrt{18}$$

FINDING THE DIAGONAL OF RECTANGULAR PRISMS.

$$d = \sqrt{l^2 + w^2 + h^2}$$



DYO:

Ex:) TRY USING THE FORMULA FOR EX 3,

$$l = 3.1\text{m}$$

$$w = 3.1\text{m}$$

$$h = 3.1\text{m}$$

$$d = \sqrt{l^2 + w^2 + h^2}$$

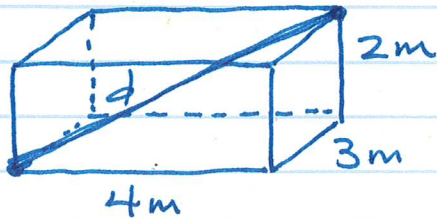
$$d = \sqrt{(3)^2 + (3)^2 + (3)^2}$$

$$d = \sqrt{9+9+9}$$

$$d = \sqrt{27}$$

$$d \approx 5.2\text{m}$$

Ex:)



$$d = \sqrt{l^2 + w^2 + h^2}$$

$$d = \sqrt{(4)^2 + (3)^2 + (2)^2}$$

$$d = \sqrt{16+9+4}$$

$$d = \sqrt{29}$$

$$d \approx 5.4\text{m}$$