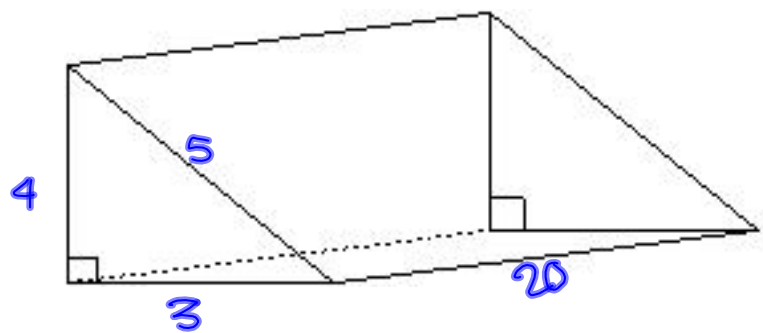| Name	Sketch	Surface Area (units²)	Volume (units³)
Prism		$2B + Ph \Rightarrow$ prism height base area, base perimeter	Bh
Pyramid	h, ℓ	$B + \frac{1}{2}P\ell$ slant height	$\frac{Bh}{3}$

Example 1: Find the <u>surface area</u> of a <u>right triangular</u> prism with
base
height 20 cm and base edges of 3cm, 4cm and 5cm. Round to
the nearest tenth, if necessary.

$$SA = 2B + Ph$$

$$B = \frac{bh}{2} = \frac{3(4)}{2} = 6$$

$$P = 3 + 4 + 5 = 12$$

$$h = 20$$

5

4

3

20

$$2(6) + 12(20) =$$
$$12 + 240 = \boxed{252 \text{ cm}^2}$$

Example 2: Find the <u>volume</u> of a rectan~~gular~~ pyramid with base
length 14 cm, width 18 cm, slant height 25 cm, and altitude of 10
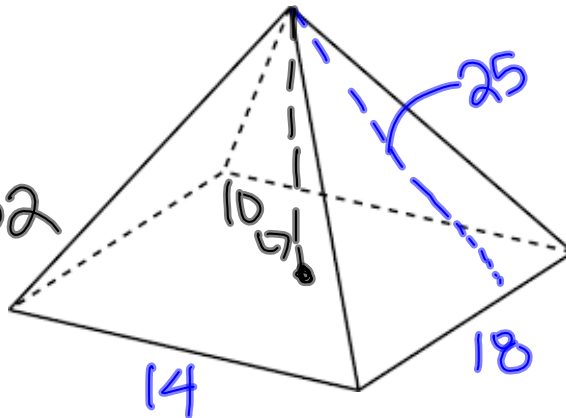cm. Round to the nearest tenth, if necessary.

base

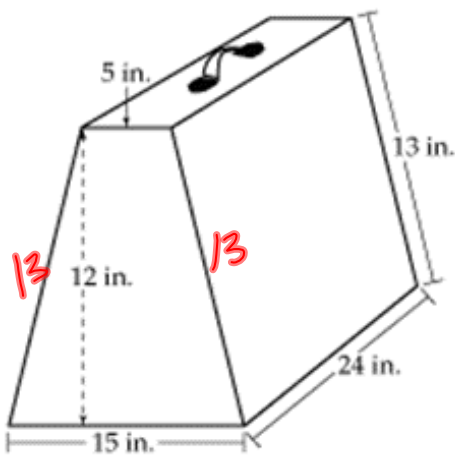$V = \dfrac{Bh}{3}$

$B = 14(18) = 252$
cm cm

$h = 10$ cm

25

10

14

18

$V = \dfrac{(252)(10)}{3} = 840 cm^3$

Example 3: Find the <u>surface area</u> and <u>volume</u> of the following:

base: trapezoid

$SA = 2B + Ph$

$B = \dfrac{(b_1 + b_2)h}{2} = \dfrac{(5 + 15)12}{2}$

$P = 5 + 5 + 13 + 13 = 46$ $= 120$

$h = 24$

$SA = 2(120) + 46(24)$
      $240 + 1104 = 1344$
                            in²

5 in.

13 in.

13   13

12 in.

24 in.

15 in.

Suitcase A

$V = Bh$
$B = 120$ $120(24) = 2880$
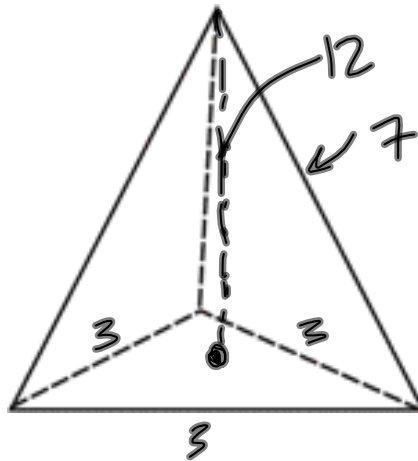$h = 24$ in³

Example 3: Find the lateral area of an equilateral triangular pyramid with base edges of 3, slant height of 7, and a height of 12.

$$SA = \cancel{B} + \tfrac{1}{2}Pl$$

$$LA = \tfrac{1}{2}Pl$$

$$P = 3+3+3 = 9$$

$$l = 7$$

$$\tfrac{1}{2}(9)(7) = \tfrac{63}{2} = \boxed{31.5 \ u^2}$$