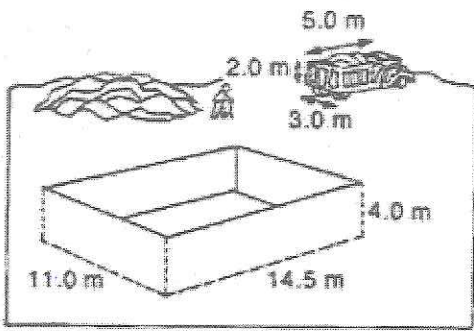


18) The excavation for a house and the trucks to carry away the material have the dimensions shown. About how many truck loads are necessary to remove all the dirt? Show your work.



$$V_H = 4m \cdot 11m \cdot 14.5m$$

$$V_H = 638m^3$$

$$V_T = 2m \cdot 3m \cdot 5m$$

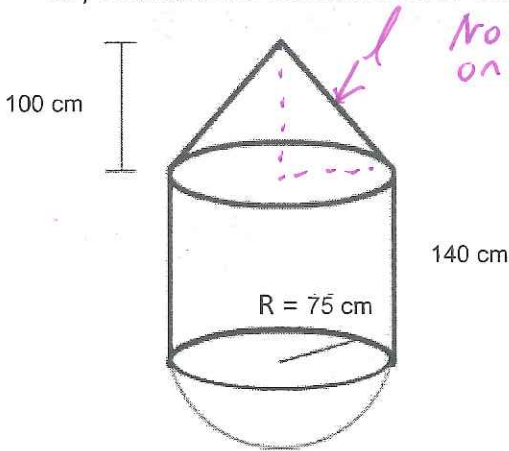
$$V_T = 30m^3$$

of Truck Loads $\frac{638m^3}{30m^3}$

#18 answer: 22 Truck loads

$= 21.26$ round up

19) Evaluate the surface area of the shape. Show your work and use units!!



No base on cone

$$SA_{cn} = \pi(75cm)(125cm)$$

$$SA_{cn} = 9375\pi cm^2$$

$l^2 = 100^2 + 75^2$
 $l^2 = 10,000 + 5,625$
 $l^2 = 15,625$
 $l = 125cm$

No bases

$$SA_{cy} = 2\pi(75cm)(140cm)$$

$$SA_{cy} = 21,000\pi cm^2$$

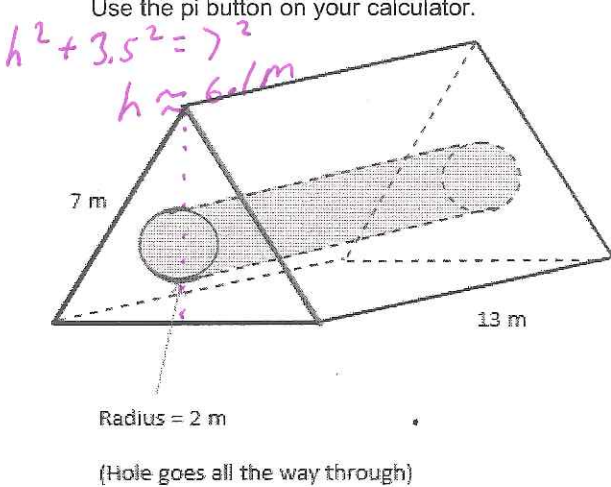
$$SA_{sp} = \frac{1}{2} \cdot 4\pi(75cm)^2$$

$$SA_{sp} = 11,250\pi cm^2$$

S.A. Total $\rightarrow 9375\pi cm^2 + 21,000\pi cm^2 + 11,250\pi cm^2$

#19 answer: Exact $41,625\pi cm^2$

20) Evaluate the volume of the following shape. The triangular bases are equilateral. Show work & use units! Use the pi button on your calculator.



$$V_{TPr} = \frac{1}{2} \cdot 7m \cdot 6.1m \cdot 13m$$

$$V_{TPr} = 277.6 m^3$$

$$V_{cy} = \pi(2m)^2 \cdot 13m$$

$$V_{cy} = 52\pi m^3$$

$$V_{cy} = 163.4 m^3$$

Total Volume: $277.6m^3 - 163.4m^3$

#20 answer: $114.2m^3$
nearest tenth