

10 people are stranded on an island with no way out. One day a man with a plane drops by and is willing to take some of the people. The one condition is that the people must sacrifice one of the ten and that person will die. If they won't sacrifice that one person, none will be able to go, and they will all have to stay on the island. If you were part of the group, what would you do?

10 people are stranded on an island with no way out. One day a man with a plane drops by and is willing to take some of the people. The one condition is that the people must sacrifice nine of the ten and those people will die. If they won't sacrifice those people, none will be able to go, and they will all have to stay on the island. If you were part of the group, what would you do?

utilitarian

10-5 S.N. of pyramids + cones

Pyramid

vertex: point opposite the base

regular pyramid: pyramid whose base is a regular polygon.

Slant height: distance from the vertex to the midpt. of the base edge.

altitude: \perp segment from the vertex to the base

Lateral area of a pyramid
w/ slant height, l , and base
perimeter, P , is $L = \frac{1}{2}Pl$

Surface Area of a pyramid with
lateral area L and base area B
is $S = L + B$.

Find $L + S$ of a regular hexagonal pyramid with edge length 14 cm and $l = 25$ cm.

$$L = \frac{1}{2} P l$$

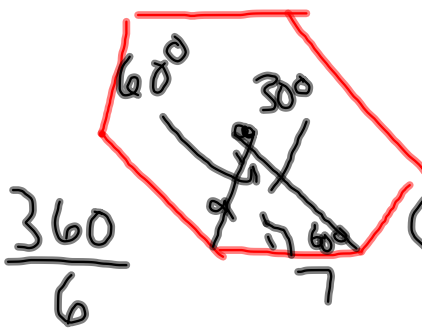
$$= \frac{1}{2} (84)(25)$$

$$= 1,050 \text{ cm}^2$$

$$S = L + B$$

$$S = 1050 + 508.2$$

$$S = 1558.2 \text{ cm}^2$$



$$B = \frac{1}{2} a p = \frac{1}{2} (12.1)(84)$$

$$= 508.2 \text{ cm}^2$$

~~$$\tan 30 = \frac{7}{x}$$~~

$$x \tan 30 = 7$$

$$\frac{x \tan 30}{\tan 30} = \frac{7}{\tan 30}$$

$$x = 12.1$$

Cone:

vertex: pt. opposite the base

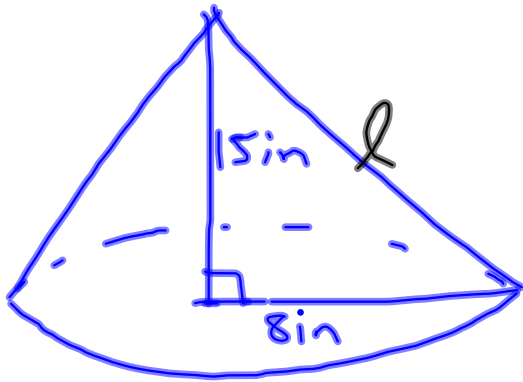
axis: segment w/ endpoints at the vertex and center of the base.

slant height: distance from the vertex to the base edge.

altitude: \perp segment from the vertex to the base.

Lateral Area of a vt. cone with radius r and slant height l is
 $L = \pi r l$.

Surface area of a vt. cone with lateral area L & base Area B is
 $S = L + B$.



$$8^2 + 15^2 = l^2$$
$$\sqrt{289} = \sqrt{l^2}$$
$$l = 17$$

Find $L + S$.

$$L = \pi r l$$
$$= \pi (8)(17)$$
$$= 136\pi \text{ in}^2$$

$$S = L + B$$

$$S = 136\pi + \pi(8)^2$$

$$S = 136\pi + 64\pi$$

$$S = 200\pi \text{ in}^2$$

p. 692 # 4

P. 693

2-22 even skip #12

odds extra credit

#8 +20 surface area
only

