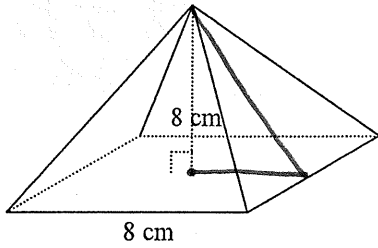


Determine the surface area for each of the following figures.

1.) Square pyramid.



$$SA = \underline{206.4 \text{ cm}^2}$$

$$B = 8^2 = 64$$

$$P = 8 \times 4 = 32$$



$$\sqrt{4^2 + 8^2} = \sqrt{l^2}$$

$$8.9 \approx l \text{ or } \sqrt{80} = 4\sqrt{5}$$

$$SA = 64 + \frac{1}{2}(32)(8.9)$$

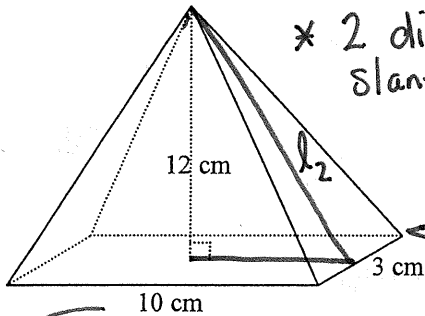
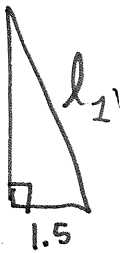
$$= 64 + 142.4$$

$$= 206.4$$

or

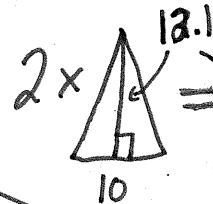
$$64 + \frac{1}{2}(32)(4\sqrt{5}) = 207.1 \text{ cm}^2$$

2.) Rectangular pyramid.



\* 2 diff. slant heights

$$SA = 39 + 121 + 30 = \boxed{190 \text{ cm}^2}$$



$$2 \times \left( \frac{1}{2} (12.1)(10) \right)$$

$$= 121 \text{ cm}^2$$

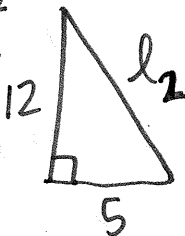


$$2 \times \left( \frac{1}{2} (13)(3) \right)$$

$$= 39 \text{ cm}^2$$

$$\sqrt{12^2 + 1.5^2} = \sqrt{l_1^2}$$

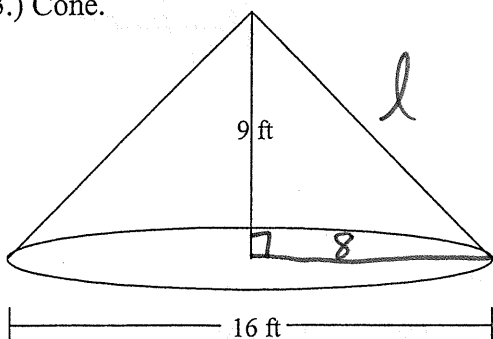
$$12.1 \approx l_1$$



$$\sqrt{12^2 + 5^2} = \sqrt{l_2^2}$$

$$13 = l_2$$

3.) Cone.



$$SA = \boxed{503.7 \text{ ft}^2}$$

$$SA = \pi 8^2 + \pi (8)(12.04)$$

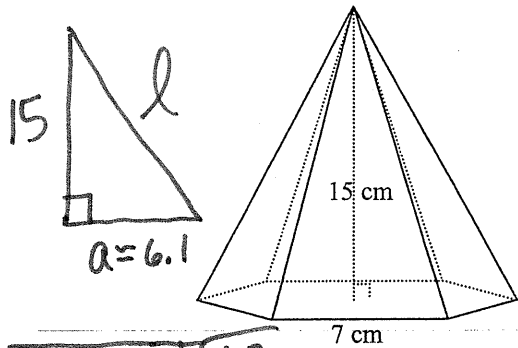
$$= 201.06 + 302.64$$

$$r = 8$$

$$\sqrt{8^2 + 9^2} = \sqrt{l^2}$$

$$12.04 \approx l$$

4.) Regular hexagonal pyramid.



$$P = 7 \times 6 = 42$$

$$SA = 468.3 \text{ cm}^2$$

$$SA = B + \frac{1}{2}Pl$$

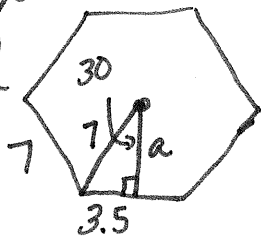
$$= 128.1 + \frac{1}{2}(42)(16.2)$$

$$\sqrt{15^2 + 6.1^2} = l$$

$$\frac{360}{6} = 60 \text{ cent. } \angle$$

$$B = \frac{6.1(42)}{2} = 128.1$$

$$16.2 = l$$

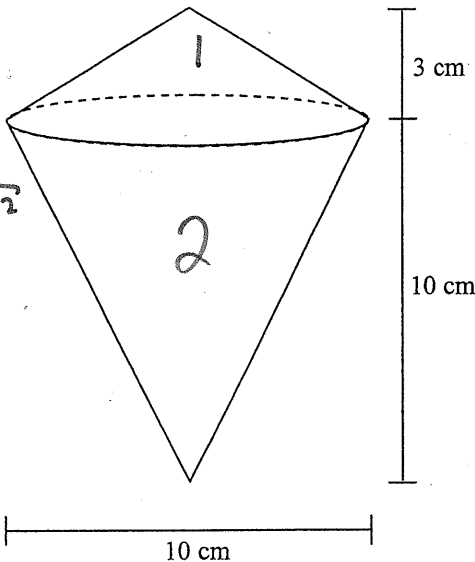
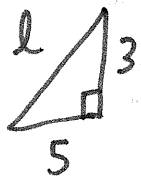


$$\frac{\tan 30}{1} = \frac{3.5}{a}$$

$$a = \frac{3.5}{\tan 30} = 6.1 \text{ or } 3.5\sqrt{3}$$

5.) Solid created from the union of two cones with identical radii.

$$SA = 267 \text{ cm}^2$$



$$\text{Total} = \text{Lat } SA_1 + \text{Lat } SA_2$$

$$\text{Lat } SA = \pi r l$$

$$\text{Lat } SA_1 = \pi(5)(5.8)$$

$$\approx 91.1 \text{ cm}^2$$

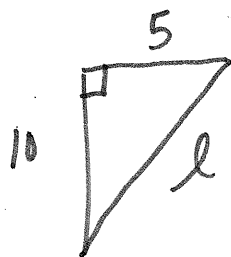
$$\text{Lat } SA_2 = \pi(5)(11.2)$$

$$\approx 175.9 \text{ cm}^2$$

$$\text{Total} = 175.9 + 91.1$$

$$\sqrt{3^2 + 5^2} = \sqrt{l^2}$$

$$5.8 \approx l$$



$$\sqrt{10^2 + 5^2} = \sqrt{l_2^2}$$

$$\sqrt{125} = l_2$$

$$11.2 \approx l_2$$

$$11.2 \approx l_2$$