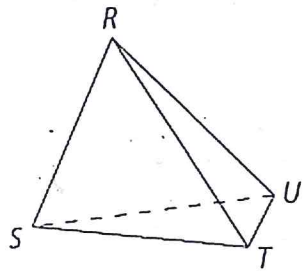
Problem 1

How many vertices, edges, and faces are in the polyhedron below? List them.



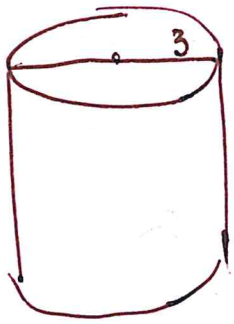
V = 4 R, U, S, T

F = 4 RUT, RUS, RST, SUT

E = 6 RU, RT, RS, SU, ST, TU

Problem 4

A soup can is 4.5 in. high and has a diameter of 3 in. How much paper is needed to make a label that will completely cover the sides of the can without overlap?



r = 1.5

h = 4.5

LA = $2\pi rh$

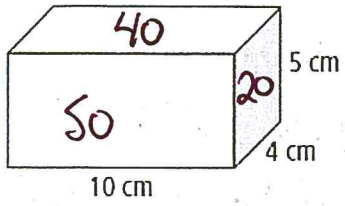
$2\pi(1.5)(4.5)$

42.4 in^2

If looking for SA add 2B or $2\pi r^2$ to LA

Problem 1

What is the surface area of the prism below? Use a net.

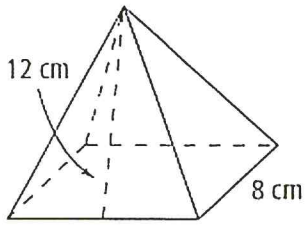


20 + 20 + 40 + 40 + 50 + 50

220 cm²

Problem 1

What is the surface area of the square pyramid with base edges of 8 cm and a slant height of 12 cm?



LA + B

↓

½Pl + B

P = 8·4 = 32

l = 12

B = 8·8 = 64

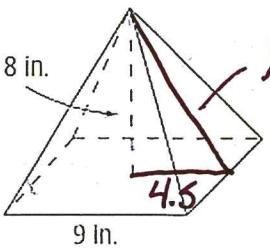
½(32)(12) + 1(64)

192 + 64

256 cm²

Problem 2

What is the lateral area of a pyramid with a height of 8 in. and a square base that measures 9 in. on each side? Round to the nearest tenth.



$l^2 = 9.2$ $4.5^2 + 8^2 = l^2$

$84.25 = l^2$

$9.2 = l$

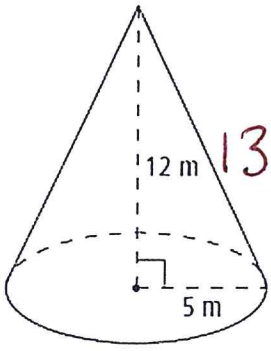
LA = ½Pl

P = 9·4 = 36

½(36)(9.2) = 165.6 in²

Problem 3

What is the lateral area of the cone in terms of π?



$5^2 + 12^2 = \ell^2$

$169 = \ell^2$

$13 = \ell$

13 m $= \ell$

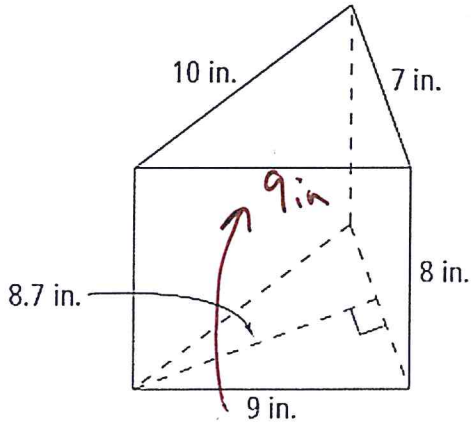
$LA = \pi r \ell = \pi(5)(13)$

$= 65\pi \text{ m}^2$

if looking for SA add πr^2 to LA

Problem 2

What is the surface area of the prism below?



$SA = LA + 2B$

$= Ph + 2B$

8 in. $= h$

perimeter of Base

$P = 10 + 7 + 9$

$= 26$

area of Base

$B = \frac{1}{2}(7)(8.7)$

$= 30.45$

$26(8) + 2(30.45) = 268.9 \text{ in}^2$