Curriculum Outcome

(N5) Determine the square root of positive rational numbers that are perfect squares.

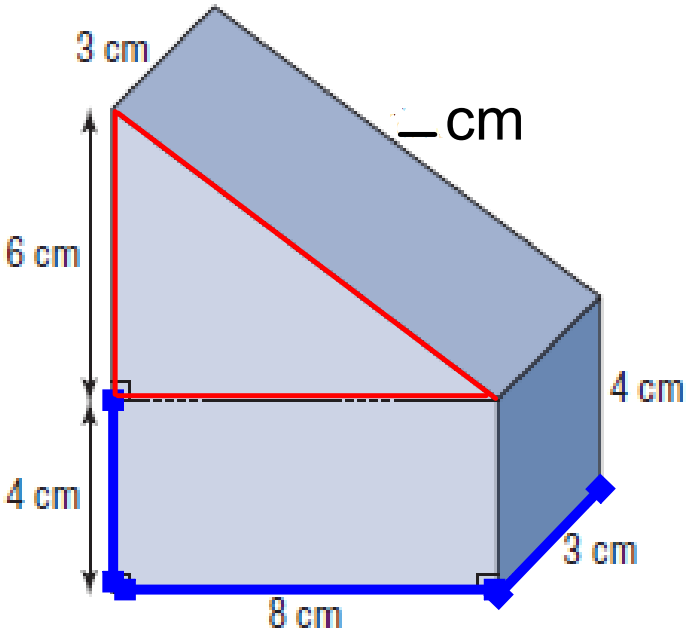
(N6) Determine an approximate square root of positive rational numbers that are non-perfect squares.

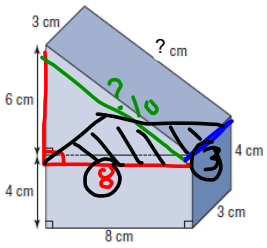
(SS2) Determine the surface area of composite 3-D objects to solve problems

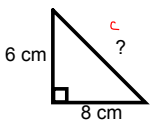
(N4) **Explain and apply the order of operations, including exponents, with and without technology.**

Warm Up

Find the Surface Area (Show all work)







$c^2 = a^2 + b^2$

$c^2 = 8^2 + 6^2$

$c^2 = 64 + 36$

$c^2 = 100$

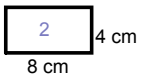
$c = \sqrt{100}$

$c = 10$ cm

Rectangle Prism

(8, 3, 4)

Front/Back



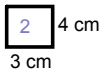
$A_1 = b \times h$

$= 8 \times 4$

$A_1 = 32 cm^2$

$2A_1 = 64 cm^2$

Left/Right



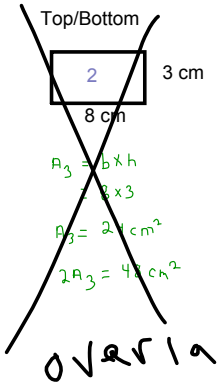
$A_2 = b \times h$

$= 3 \times 4$

$A_2 = 12 cm^2$

$2A_2 = 24 cm^2$

Top/Bottom



$A_3 = b \times h$

$= 8 \times 3$

$A_3 = 24 cm^2$

$2A_3 = 48 cm^2$

overlap

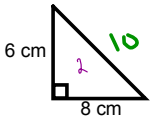
$SA_2 = 2A_1 + 2A_2 + 2A_3$

$= 64 + 24 + 48$

$SA_2 = 136 cm^2$

Triangle Prism

Front/Back



$A_1 = \frac{b \times h}{2}$

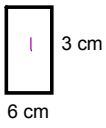
$= \frac{6 \times 8}{2}$

$= \frac{48}{2}$

$= 24 cm^2$

$2A_1 = 48 cm^2$

Left Side

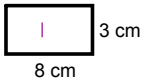


$A_2 = b \times h$

$= 6 \times 3$

$A_2 = 18 cm^2$

Bottom

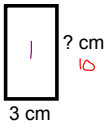


$A_3 = b \times h$

$= 8 \times 3$

$A_3 = 24 cm^2$

Top



$A_4 = b \times h$

$A = 3 \times 10$

$A_4 = 30 cm^2$

$SA_1 = 2A_1 + A_2 + A_3 + A_4$

$= 48 + 18 + 24 + 30$

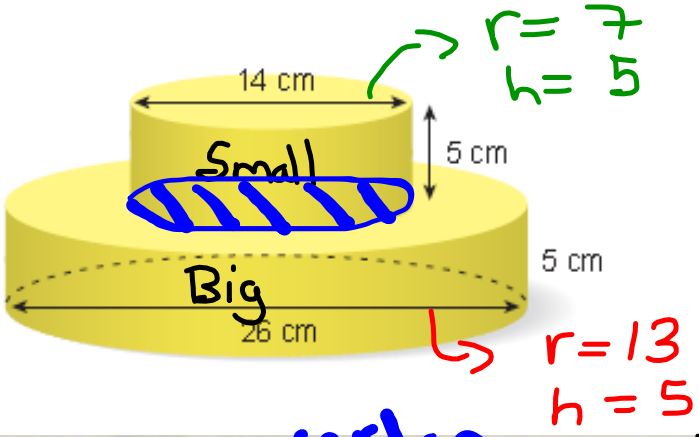
$SA_1 = 120 cm^2$

Total Surface Area

$T_{SA} = SA_1 + SA_2 - \text{overlap}$

$= 120 + 136 - 48$

$= 208 cm^2$



Overlap (small circle)

$A = \pi r^2$

$2A = 2\pi r^2$

$= 2\pi(7)^2$

$= 2\pi(49)$

$= 307.72$

Small

~~$SA = 2\pi r^2 + 2\pi rh$~~

$SA = 2\pi(7)^2 + 2\pi(7)(5)$

$SA = 2\pi(49) + 2\pi(35)$

$SA = 307.72 + 219.8$

$SA = 527.52\ cm^2$

Large:

$SA = 2\pi r^2 + 2\pi rh$

$SA = 2\pi(13)^2 + 2\pi(13)(5)$

$SA = 2\pi(169) + 2\pi(65)$

$SA = 1061.32 + 408.2$

$SA = 1469.52$

$TSA = SA_1 + SA_2 - \text{over lap}$

$= 527.52 + 1469.52 - 307.72$

$= 1689.32$

Class / Homework

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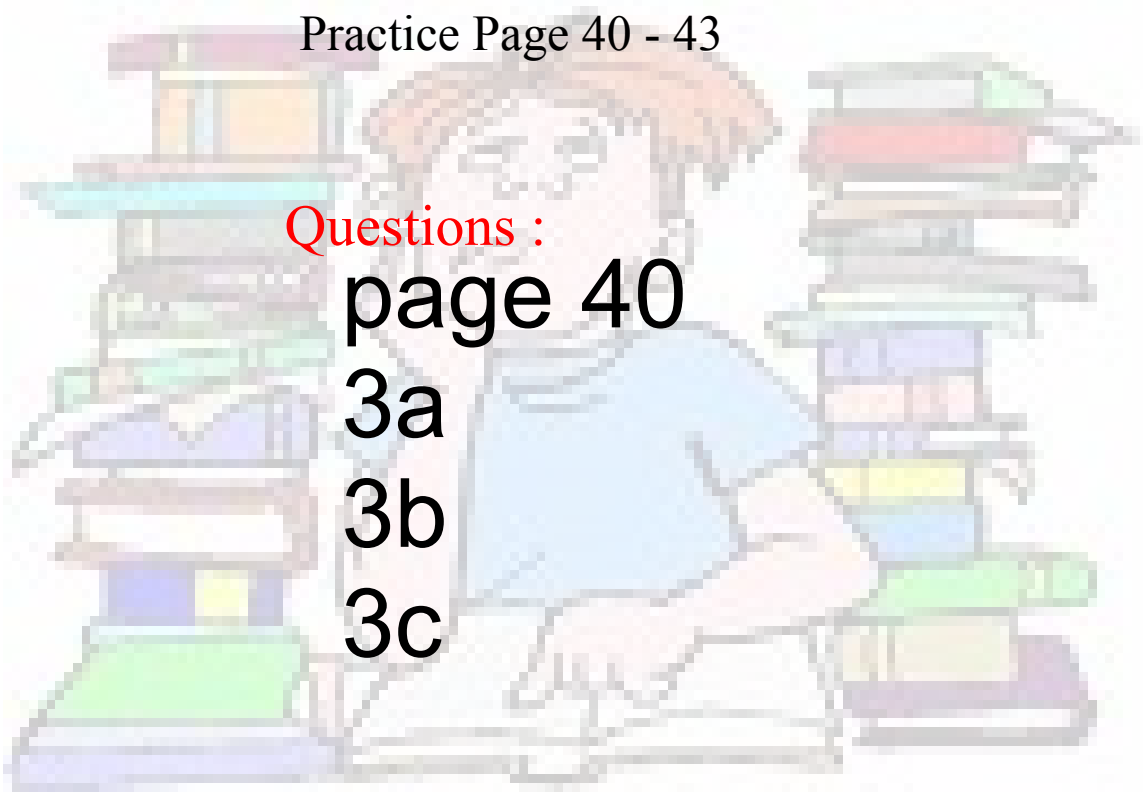

Questions :

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3a

3b

3c