Curriculum Outcome

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

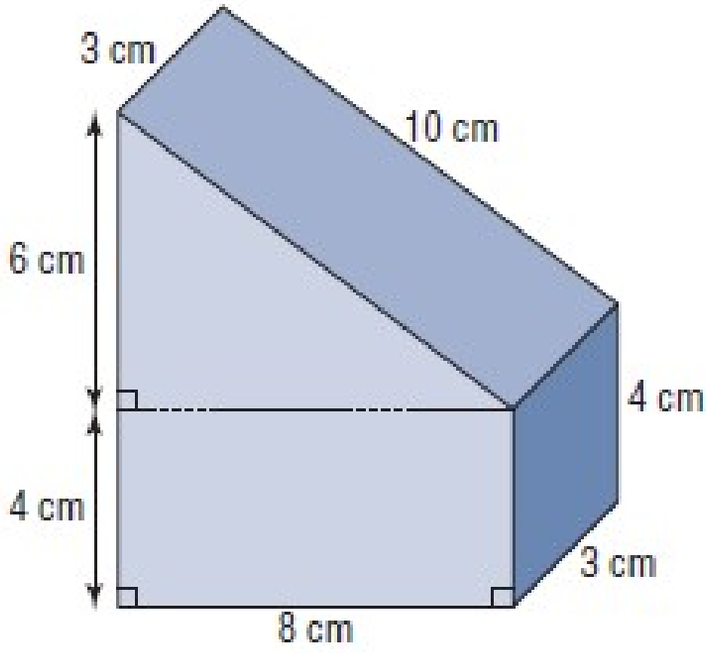
(N6) Determine an approximate square root of positive rational numbers that are non-perfect squares.

(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)



Warm Up

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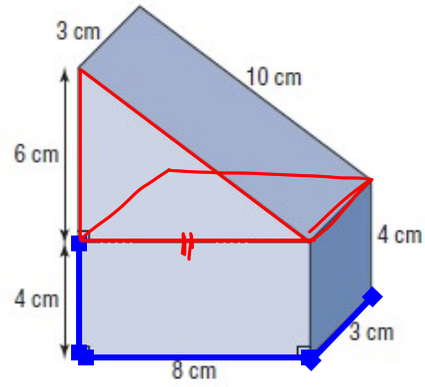
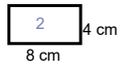


Rectangle Prism

4 x 8 x 3

overlap

Front/Back

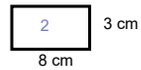


$A_1 = b \times h$
$= 8 \times 4$
$A_1 = 32 cm^2$
$2A_1 = 64 cm^2$

Left/Right

$A_2 = b \times h$
$= 3 \times 4$
$A_2 = 12 cm^2$
$2A_2 = 24 cm^2$

Top/Bottom

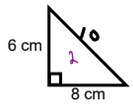


$A_3 = b \times h$
$= 8 \times 3$
$A_3 = 24 cm^2$
$2A_3 = 48 cm^2$

$SA_2 = 2A_1 + 2A_2 + 2A_3$
$= 64 + 24 + 48$
$SA_2 = 136 cm^2$

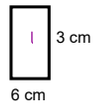
Triangle Prism

Front/Back



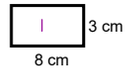
$A_1 = \frac{b \times h}{2}$
$= \frac{6 \times 8}{2}$
$= \frac{48}{2}$
$= 24 cm^2$
$2A_1 = 48 cm^2$

Left Side



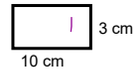
$A_2 = b \times h$
$= 6 \times 3$
$A_2 = 18 cm^2$

Bottom



$A_3 = b \times h$
$= 8 \times 3$
$A_3 = 24 cm^2$

Top



$A_4 = b \times h$
$A = 3 \times 10$
$A_4 = 30 cm^2$

$SA_2 = 48 + 18 + 24 + 30$
$= 120 cm^2$

Total Surface Area

$T_{SA} = SA_1 + SA_2 - overlap$
$= 120 + 136 - 48$
$= 208 cm^2$

Class/ Homework

8c) 255.5 cm^2

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10a) 156.03 m^2

Questions: 8 c
10

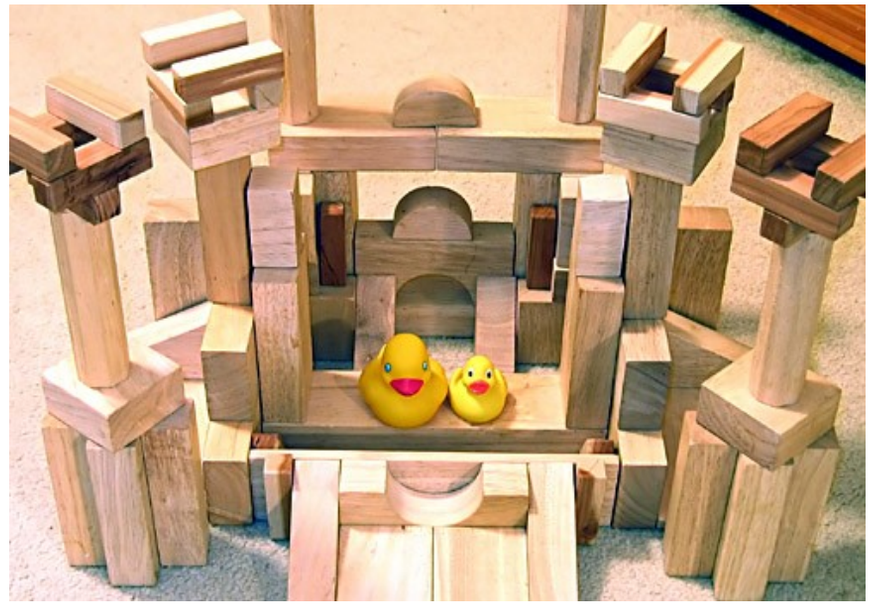
b) $1609.20

MUST SHOW ALL WORK

Section 1.4

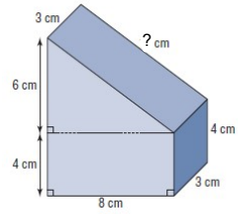
Surface Area Of Other Composite Objects

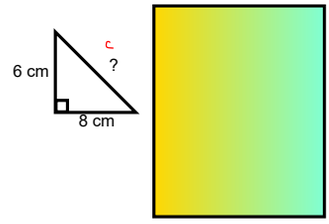
Surface area????



Other Composite Shapes

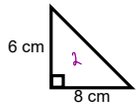
3-D shapes sitting on other 3-D shapes (This will cause an overlap meaning that the entire two or more shapes are not exposed to the surface





Triangle Prism

Front/Back



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

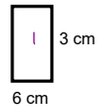
$= \frac{6 \times 8}{2}$

$= \frac{48}{2}$

$= 24 cm^2$

$2A_1 = 48 cm^2$

Left Side

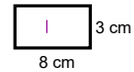


$A_2 = b \times h$

$= 6 \times 3$

$A_2 = 18 cm^2$

Bottom

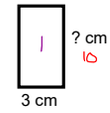


$A_3 = b \times h$

$= 8 \times 3$

$A_3 = 24 cm^2$

Top



$A_4 = b \times h$

$A = 3 \times 10$

$A_4 = 30 cm^2$

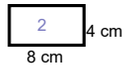
$SA_1 = 2A_1 + A_2 + A_3 + A_4$

$= 48 + 18 + 24 + 30$

$SA_1 = 120 cm^2$

Rectangle Prism

Front/Back



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Left/Right

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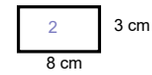
Top/Bottom



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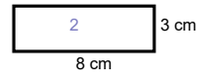
$SA_2 = 2A_1 + 2A_2 + 2A_3$

$= 64 + 24 + 48$

$SA_2 = 136 cm^2$

Overlap



$A = b \times h$

$= 8 \times 3$

$A = 24 cm^2$

$2A = 48 cm^2$

Total Surface Area

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

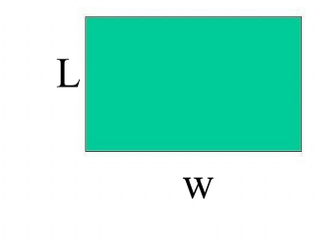
$= 120 + 136 - 48$

$= 208 cm^2$

Area of Shapes

Area of a Rectangle

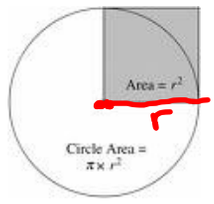
A = length x width



Area of a Circle

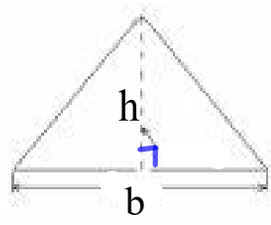
$A = \pi r^2$

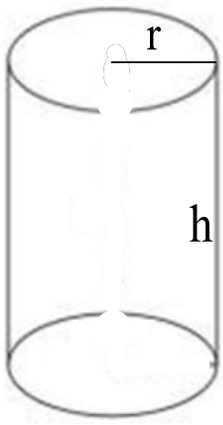
$= (3.14)\ (r)^2$



Area of Triangle

$A = \frac{\text{(base x height)}}{2}$



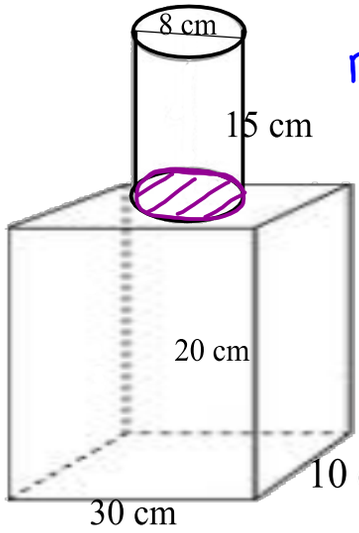


2 circles + rectangle

Area of Cylinder $= 2\pi r^2 + 2\pi rh$

$= 2(3.14)\ (\_\_\_)^2 + 2(3.14)\ (\_\_\_)\ (\_\_\_)$

How much paint is needed to cover the following shape?



You try!!!

r = 4
h = 15

30, 10, 20

Rectangular Prism 30 X 10 x 20

Top

A =b×h
A = 30 cm x 10 cm
= 300 cm^2

A= bxh
A = 20 cm x 30 cm
= 600 cm^2

A=b xh
A = 10 cm x 20 cm
= 200 cm^2

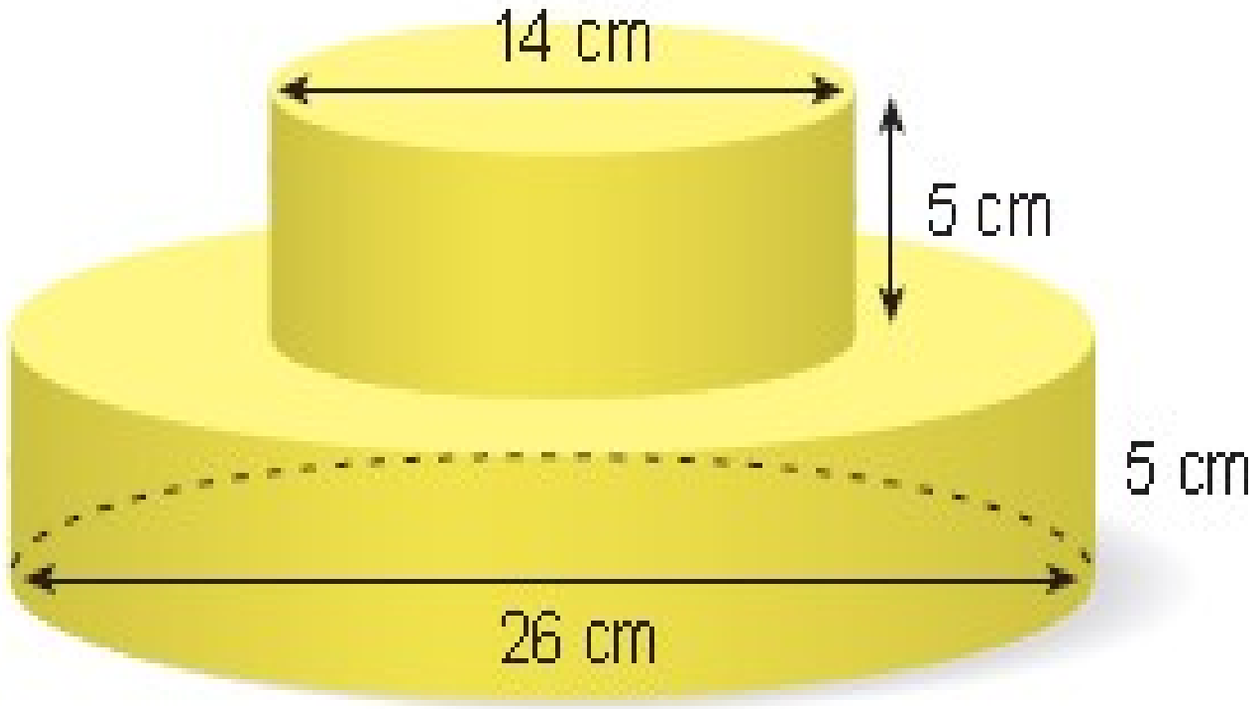
Total SA small = 2Top +2Side +2Front
= 2(300cm^2) +2(600cm^2) + 2(200cm^2)
= 600 cm^2 + 1200cm^2 + 400cm^2
= 2200cm^2

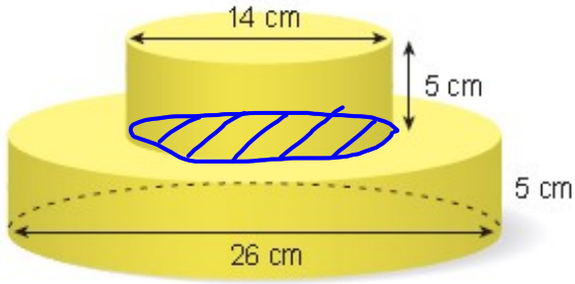
Cylinder

10 overlap

Area of Cylinder = $2\pi r^2 + 2\pi rh$
= 2(3.14) (__4__)^2 + 2(3.14) (__4__) (__15__)
= 2(3.14) (_16__) + 2(3.14) (_4__) (15)
= 100.48 + 376.8
= 477.28 cm^2

Total Surface Area = cylinder + Prism - Overlap area
= 477.28 + 2200 cm^2 - 100.48 cm^2
= 2677.28 cm^2 - 100.48 cm^2
= 2576.8 cm^2


14 cm
5 cm
5 cm
26 cm



Big

$$SA = 2\pi r^2 + 2\pi rh$$
$$= 2\pi(13)^2 + 2\pi(13)(5)$$
$$= 1061.32 + 408.2$$
$$= 1469.52\,cm^2$$

Small

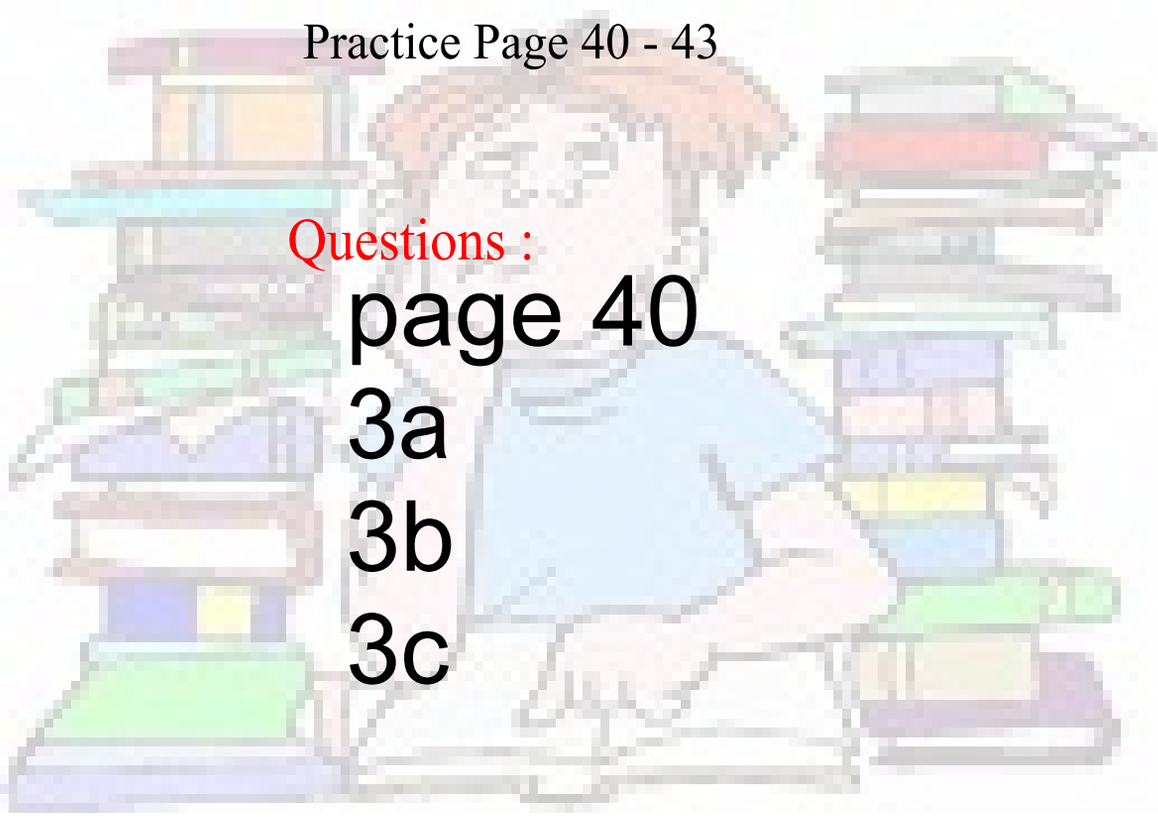
overlap

$$SA = 2\pi r^2 + 2\pi rh$$
$$= 2\pi(7)^2 + 2\pi(7)(5)$$
$$= 307.72 + 219.8$$
$$= 527.52\,cm^2$$

$$TSA = Big + small - overlap$$
$$= 1469.52 + 527.52 - 307.72$$
$$= 1689.32\,cm^2$$

Class / Homework

Practice Page 40 - 43



Questions :

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3a

3b

3c