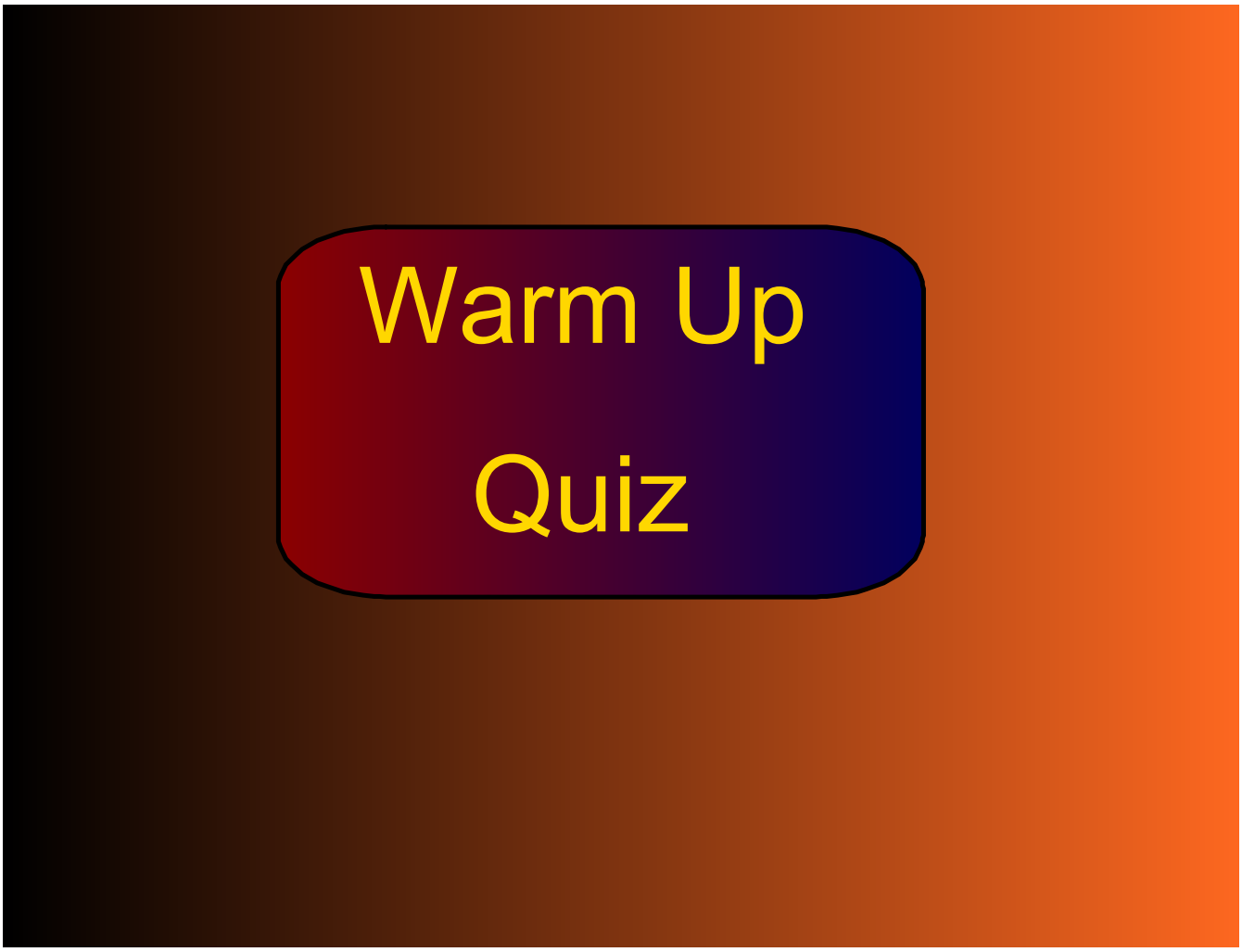
Curriculum Outcome

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

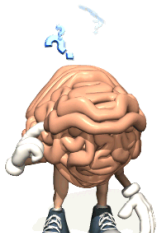
(N6) Determine an approximate square root of positive rational numbers that are non-perfect squares.

(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
Quiz

Recall



1. Determine the value of $\sqrt{0.09}$. (Without a calculator)

$\sqrt{\frac{9}{100}} = \frac{3}{10}$

2. Which fraction is a perfect square? (WITHOUT A CALCULATOR)

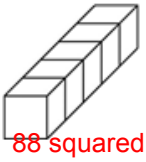
a) $\sqrt{\frac{49}{60}} = \frac{7}{?}$ b) $\sqrt{\frac{49}{225}} = \frac{7}{15}$ c) $\frac{28}{225}$ d) $\frac{7}{15}$

Class/ Homework

Lesson 1.3: Surface Areas of Objects Made from Right Rectangular Prisms

1. Each cube has edge length 2 unit.
Determine the surface area of each object.

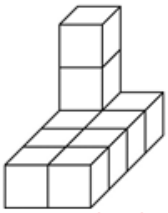
a)



88 squared units

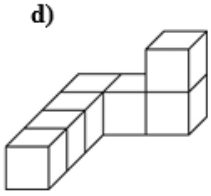
b) 72 squared units

c)

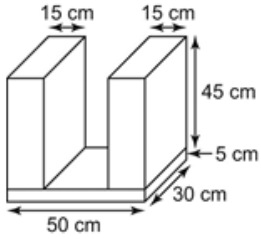


144 squared units

d) 120 squared units



2. Determine the surface area of this composite object.

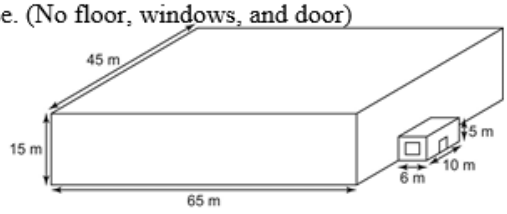


11 900 squared units

3. The local curling rink is shown in the diagram at the right.

a) Determine the surface area of the warehouse. (No floor, windows, and door)

6345 m^2



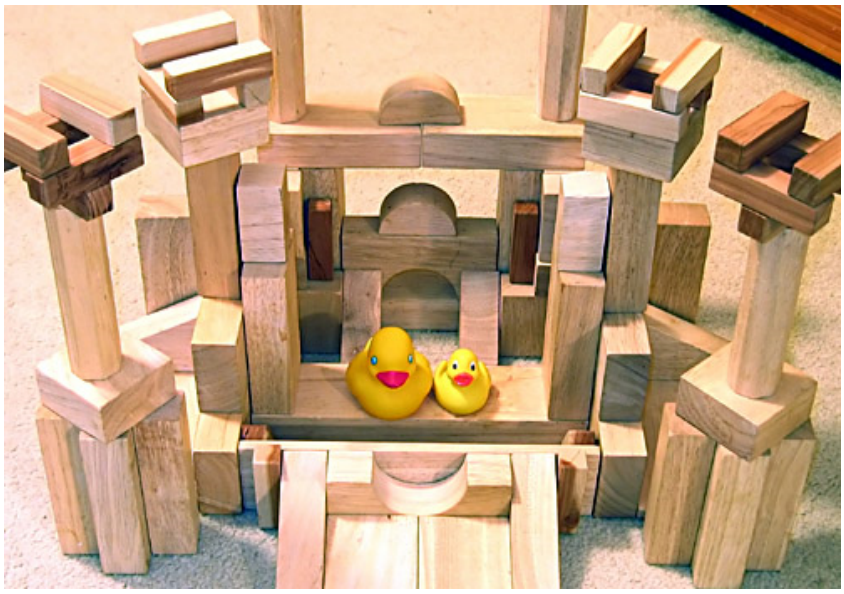
b) The door is 1 m by 2 m
and the window is 4 m by 2 m. Determine
the surface area to be painted. 6335 m^2

c) A can of paint covers 300 m^2 and
costs $45. Determine the cost of the paint needed. $990

Section 1.4

Surface Area Of Other Composite Objects

Surface area????



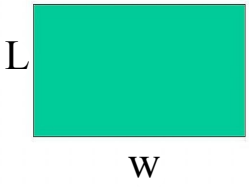
Other Composite Shapes

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

Area of Shapes

Area of a Rectangle

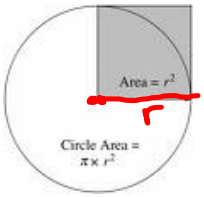
A = length x width



Area of a Circle

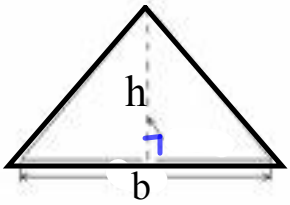
$A = \pi r^2$

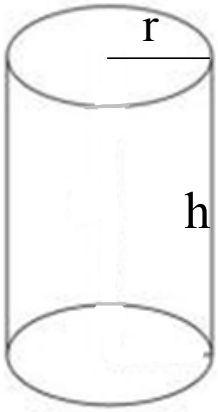
$= (3.14)(r)^2$



Area of Triangle

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

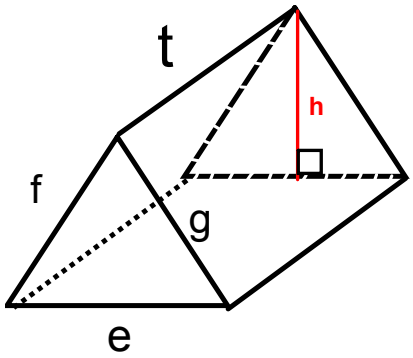


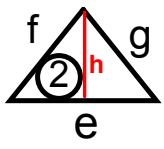


2 circles + rectangle

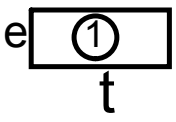
Area of Cylinder $= 2\pi r^2 + 2\pi rh$

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

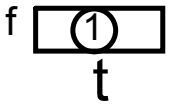




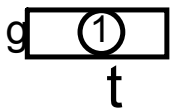
A= $\frac{(\text{base x height})}{2}$



A= (base x height)



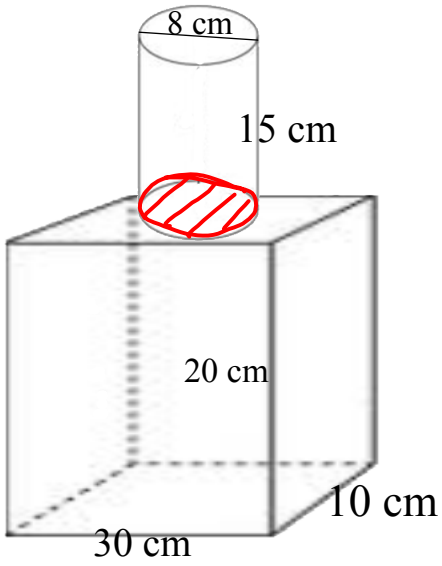
A= (base x height)



A= (base x height)

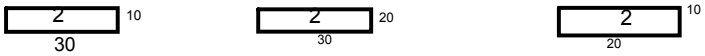
How much paint is needed to cover the following shape?

Lets try!!!



r = 4cm
h = 15 cm

Rectangular Prism (20, 10, 30)



A = bxh
A = 30 cm x 10 cm
A = 300 cm^2
2A = 600 cm^2

A = bxh
A = 20 cm x
A = 60
2A = 1200 cm^2

A=b xh
A = 10 cm x 2
A = 200 cm^2
2A = 400cm^2

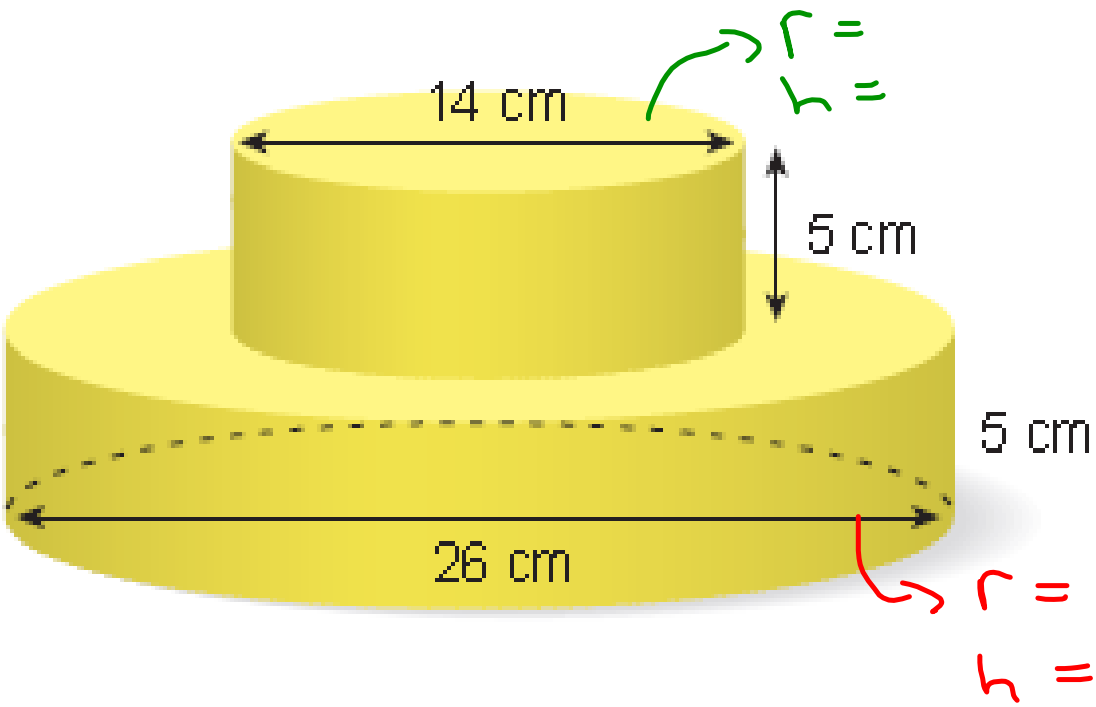
SA prism = 600 cm^2 + 1200cm^2 + 400cm^2
= 2200cm^2

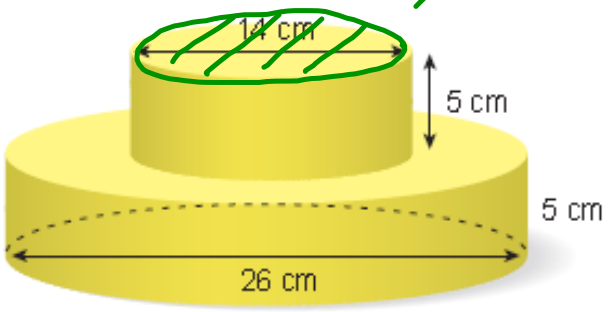
Cylinder r = 4 h = 15

overlap

Area of Cylinder = ~~2πr^2~~ + 2πrh
= 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

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
r =
h =
r =
h =



Small $r=7$ $h=5$

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

overlap

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

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

$SA = 307.72 + 219.8$

$SA = 527.52\ cm^2$

Large: $r=13$ $h=5$

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

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

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

$SA = 1061.32 + 408.2$

$SA = 1469.52$

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

$= 527.52 + 1469.52 - 307.72$

$= 1689.32\ cm^2$

Class / Homework

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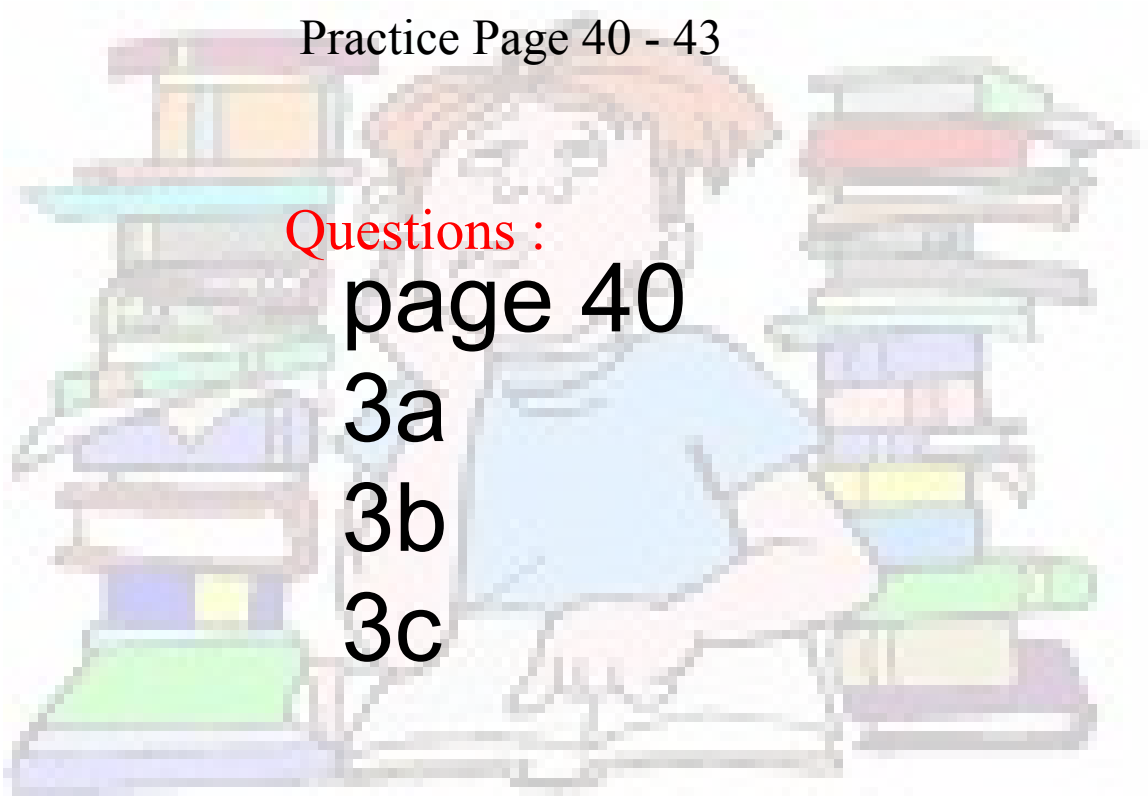

Questions :

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3a

3b

3c