Curriculum Outcome

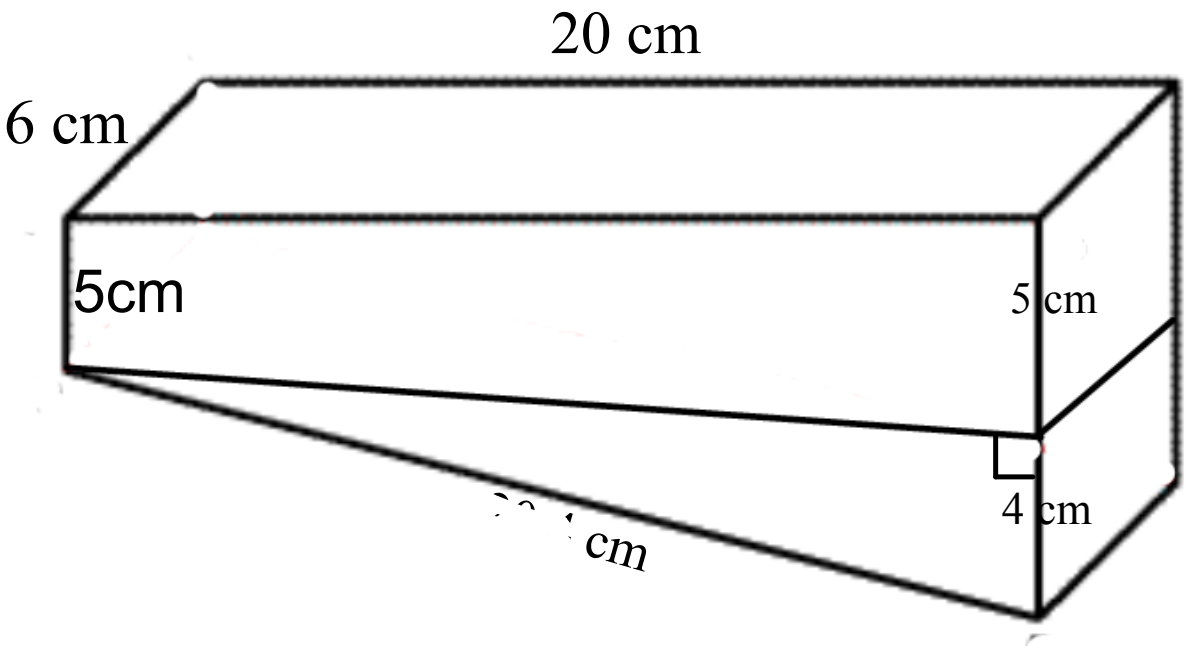
(N5) Determine the square root of positive rational numbers that are perfect squares.

(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

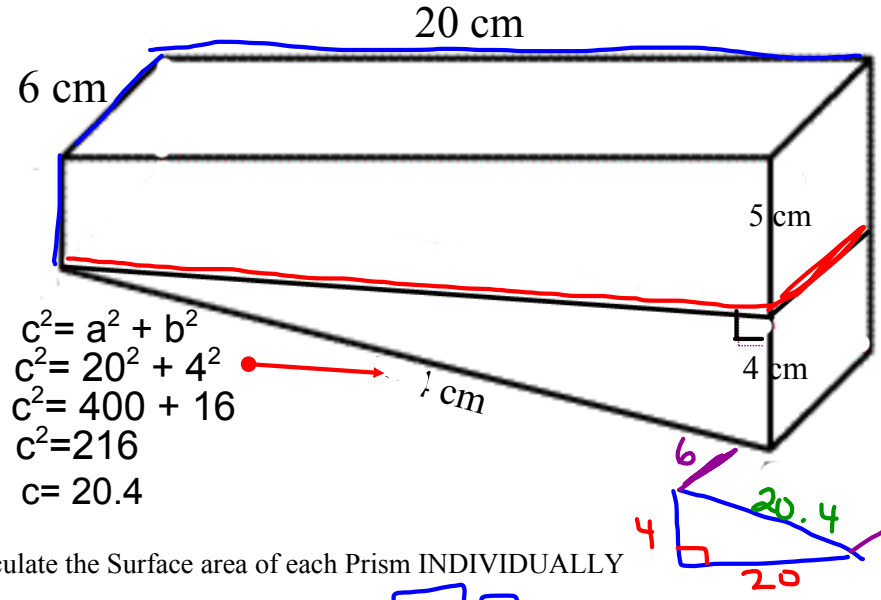
(N4) **Explain and apply the order of operations, including exponents, with and without technology.**


Warm Up


20 cm
6 cm
5cm
5 cm
4 cm

Calculate the surface area

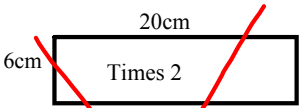
Method 1)



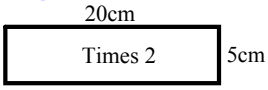
$c^2 = a^2 + b^2$
$c^2 = 20^2 + 4^2$
$c^2 = 400 + 16$
$c^2 = 216$
$c = 20.4$

Step 1) Calculate the Surface area of each Prism INDIVIDUALLY

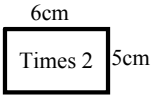
Rectangular prism (Surface) (20, 6, 5)



A = 6cm x 20 cm
= 120 cm^2
2(120) cm^2
240 cm^2



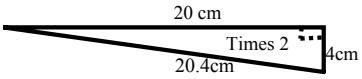
A =5cm x 20 cm
= 100 cm^2
2(100 cm^2)
200 cm^2



A =5cm x 6 cm
= 30 cm^2
2(30cm^2)
60cm^2

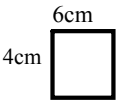
Area of rectangular prims = 240 cm^2 + 200 cm^2 + 60cm^2
= 500 cm^2

Triangular Prism

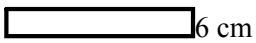


A = (20 cm X 4 cm) / 2
= (80 cm^2) / 2
= 40 cm^2

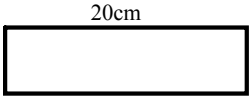
2A= 80cm^2



A = 4cm x 6cm
= 24 cm^2



A = 20.4 cm X 6 cm
= 122.4 cm^2



A = 6cm x 20 cm
= 120 cm^2

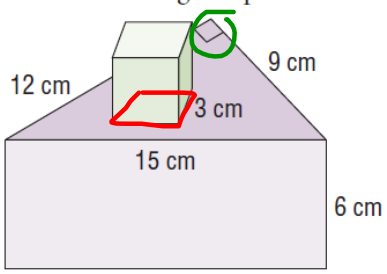
Area of triangular prism
= 80cm^2 + 24 cm^2 + 122.4cm^2 + 120cm^2
= 346.4cm^2

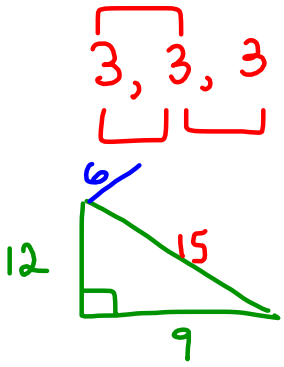
Total Surface Area = Rectangular prism + Triangular Prism - (OVERLAP)

= (500cm^2) + 346.4 cm^2 - 240cm^2

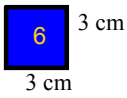
= 606.4 cm^2

d) cube on a triangular prism





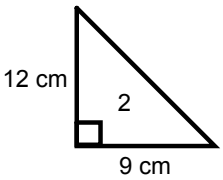
Cube



A = b x h
A= 3 x 3
A= 9 cm^2

Area = 6 faces x (area of one face)
= 6 x (9 cm^2)
= 54 cm^2

Triangular Prism



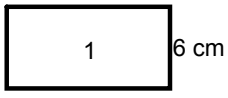
A = $\frac{b \times h}{2}$

A = $\frac{9 \times 12}{2}$

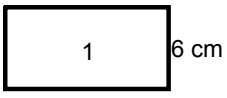
A = $\frac{108}{2}$

A = 54

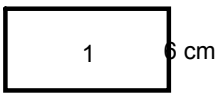
2A = 108 cm^2



A = b x h
A= 15 x 6
A= 90 cm^2



A = b x h
A= 9 x 6
A= 54 cm^2



A = b x h
A= 12 x 6
A= 72 cm^2

Total SA Large = 2 Triangles +Side + Side + Side
= 108 + 90 +54 +72
= 324 cm^2

Total SA = Triangular Prism + Cube - Overlap
= 324 cm^2 + 54cm^2 - 18 cm^2
= 360 cm^2

Class / Homework

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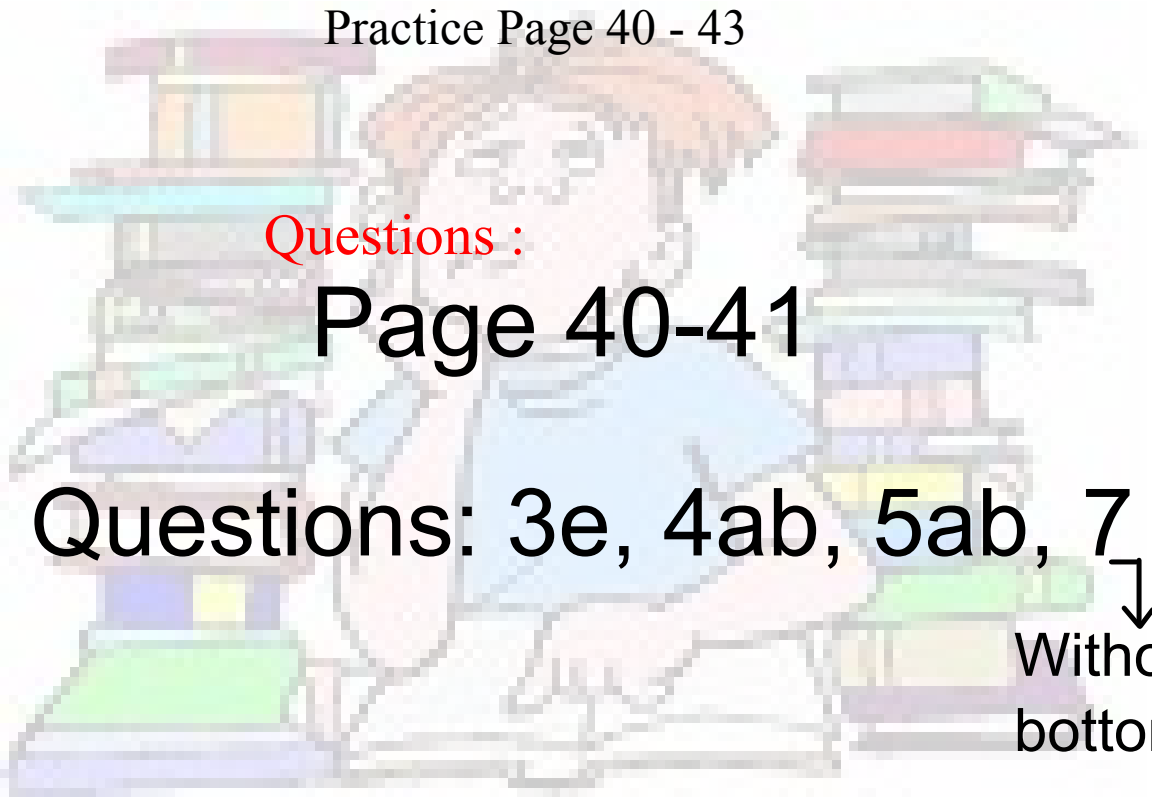

Questions :

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Questions: 3e, 4ab, 5ab, 7

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