1.3 Square Roots of Non-Perfect Squares

Friday, October 16, 2015   8:37 AM

Name_____ _____

Blk_____

Goal: To be able to determine the surface area of a composite object made from cubes and other rectangular prisms.

Part A: Linking Cubes

Assume that each cube has an area of 1 square unit. Add one cube at the end to create a "train". Calculate the surface area of this composite object and complete the table below.
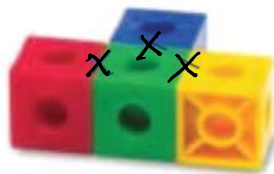
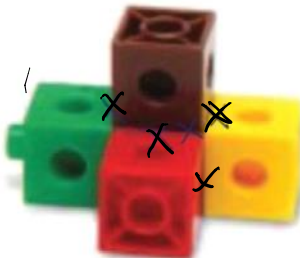| # of cubes	Surface Area
1	6 units²
2	10
3	14
4	18
5	22

SA = surface area

What patterns do you see? __everytime we add one cube__ __our SA goes up by 4__

What happens to the surface area each time you place another cube on the train?

_____

Example: Determine the surface area of the following objects:

4 cubes × 6 faces = 24
3 joins × 2 covered = – 6
_____
18 units²

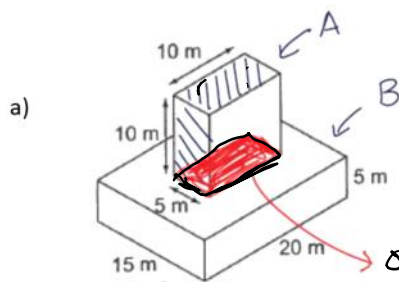5 cubes × 6 faces = 30
4 joins × 2 covered = – 8
_____
22 units²

Name_____ _____

Blk_____

$A = lw$

Part B: Surface Area of Composite Objects

Determine the surface area of the following shapes. Be Very clear and logical when you are organizing your work!
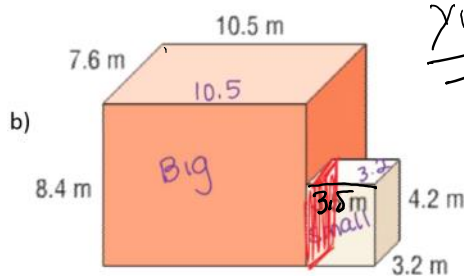
a)

A

TB $5 \times 10 \times 2 = 100$

LR $10 \times 10 \times 2 = 200$

FB $5 \times 10 \times 2 = 100$

$400 m^2$

overlap $5 \times 10 \times 2 = 100$

B

TB $20 \times 15 \times 2 = 600$

LR $20 \times 5 \times 2 = 200$

FB $15 \times 5 \times 2 = 150$

$950 m^2$

Total: $400 + 950 = 1350 m^2$

$- 100$

$\boxed{1250 m^2}$

you try

calculators allowed for this section

b)

Big FB $8.4 \times 10.5 \times 2 = 176.4$

TB $7.6 \times 10.5 \times 2 = 159.6$

LR $7.6 \times 8.4 \times 2 = 127.7$

463.7

Small FB $3.5 \times 4.2 \times 2 = 29.4$

TB $3.5 \times 3.2 \times 2 = 22.4$

LR $4.2 \times 3.2 \times 2 = 26.9$

78.7

overlap $4.2 \times 3.2 \times 2 = 26.9$

Total $463.7 + 78.7$

$= 542.4$

$- 26.9$

$\boxed{515.5 m^2}$

tor

c)

7cm

big

2cm   5cm

2cm

small

2cm

2cm

5cm

5cm

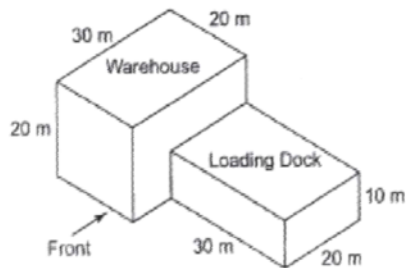d) A loading dock is attached to one wall of a warehouse. The exterior of the buildings are to be painted at a cost of $2.50/m^2.

How much will it cost to paint the buildings?

Will the bottom of the warehouse and loading dock be painted?_____

30 m   20 m

Warehouse

20 m

Loading Dock

10 m

Front   30 m   20 m

Assignment: ⎰Question C and D from notes.
            ⎱p. 30 # 4, 8, 10

Short Quiz Wednesday section 1.1-1.2
    – square roots ⇒ perfect and non-perfect
                                    squares.