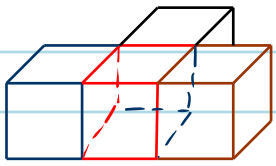
May.17th, 2016

Unit 5 Day 11
5-8 Surface Area Intro

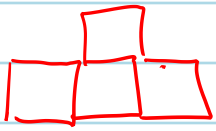
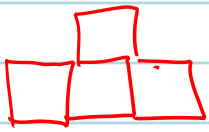
1) Factor $4x^5 - 8x^4 - 32x^3$

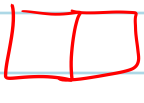
$= 4x^3(x^2 - 2x - 8)$

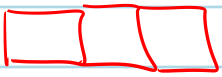
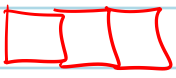
$= 4x^3(x-4)(x+2)$

2) 

Find the surface area of this object formed by 1cm wide cubes.

Top:  Bottom:  8

Left:  Right:  4

Front:  Back:  6

$18\,cm^2$

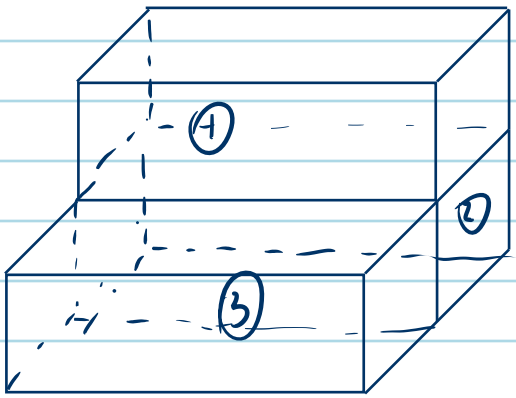
B: Count all faces of 1 cube, multiply by # of cubes. Subtract TWICE the shared area.

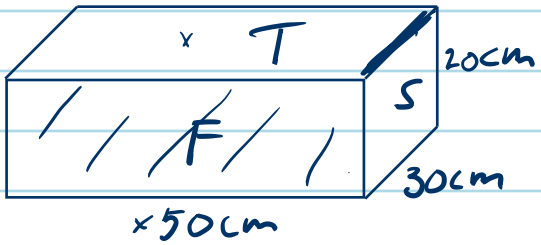
$= 24 - 2 \cdot 3$

$= 24 - 6$

$= 18\,cm^2$

2) A chair constructed by 3 pieces of foam. Each piece of foam is a rectangular prism with dimensions 50cm by 30cm by 20cm. How much fabric is needed to cover the chair?





Prism: Top + Bottom $50cm \times 30cm \times 2 = 3000cm^2$

Left + Right $20cm \times 30cm \times 2 = 1200cm^2$

Front + Back $50cm \times 20cm \times 2 = 2000cm^2$

$6200cm^2$

SA of 3 prisms: $3(6200cm^2) = 18,600cm^2$

Subtract the shared areas:

$50cm \cdot 20cm \cdot 2$ $-2000cm^2$

$50cm \cdot 30cm \cdot 2$ $-3000cm^2$

$13,600cm^2$

Practice 5-11