Unit 3

3.3 Surface Area

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Objective

Understand and apply Surface Area

Definitions

surface area: all the area exposed to the outside world on an object

geometric net: what we get if we unfold the 3d surface area into a 2d surface

Start

Intro

If I recall correctly, a year an a half ago I taught you surface area. So I hope this is not the first time you've seen what I'm about to show you.

We've worked with converting measurements, first from one system into itself, and then between two different systems. We've worked with linear measurements, measurements that are a single unit. however, things get more complicated (but not impossible) when we introduce another dimension.

Surface Areas

Here is your activity: I have nets cut out for, and your job is to discover a formula for the surface area (pg 202 in teachers book). You will need to find the surface area for the following objects

- Rectangular Prism

- Triangular Prism
- Cylinder
- Cone

To do this I recommend first breaking the objects into their individual faces, and then finding out what the surface area is for each face, and finally adding them all together.

There is something else I want you to do: find the surface area in SI and Imperial for each object that you are working on.

> Q: Is there an easy way to quickly convert the surface area in SI to imperial?

There isn't, because we convert on a linear path, and not in 2 dimensions. In order to find the different surface areas, we need to first convert the base units, and then calculate the new surface area based upon that.

Example 1

pg. 118

Example 2

pg. 119

Assignment

pg. 122: 4 - 7