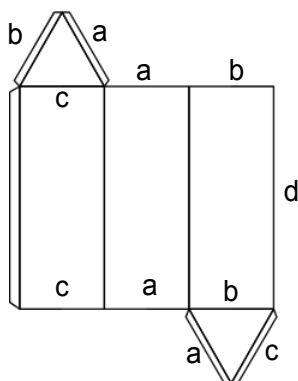


12-2 Nets & Surface Area

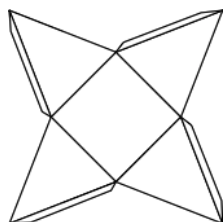
Net:

- * A two dimensional pattern of a 3-d object.
- * Can be folded to form the 3-d object.
- * Helpful in visualization of the polygons that make up the surface of a solid.

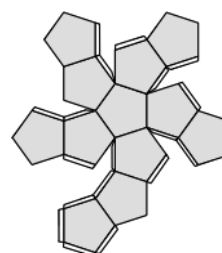


Triangular Prism

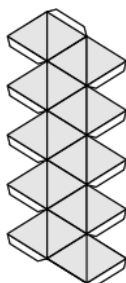
What 3D object do you think this turns out to be?



Square Pyramid



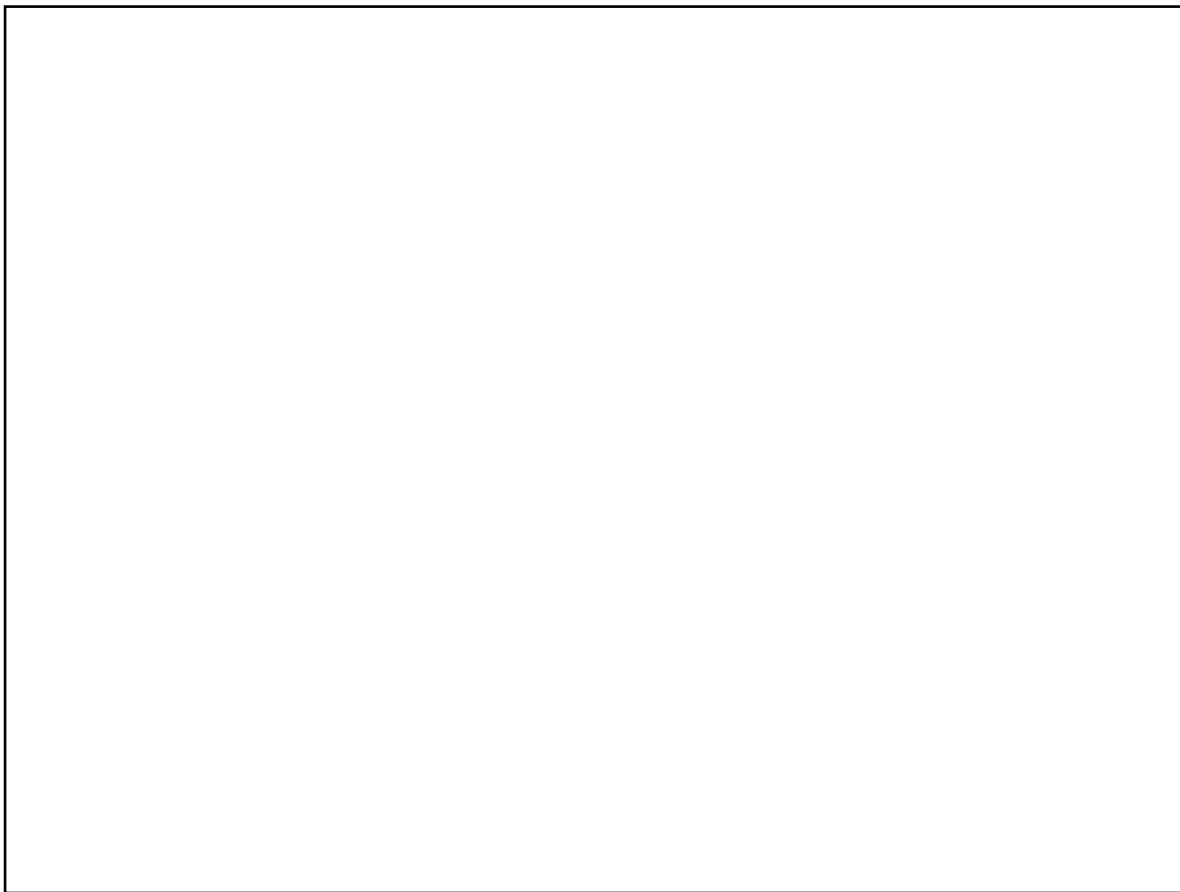
Dodecahedron



Icosahedron

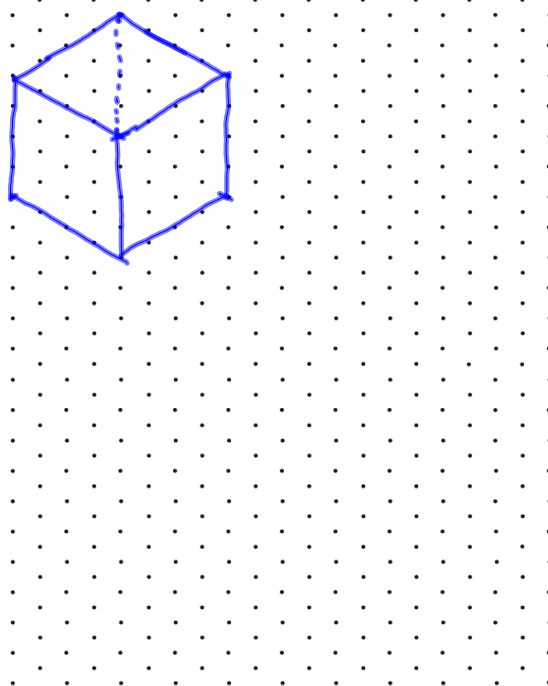


Right Cone



Draw a cube with 4 units on each edge.

Isometric Dot Paper



Surface Area:

- * How much material is needed to cover the whole surface.
- * Think of wrapping a present!!!!
- * It is the sum of the areas for each face of solid.

Example: Find the Surface Area of the Kleenex box

$$A = bh = 9 * 2.75 = 24.75 \text{ in}^2$$

$$A = bh = 4.5 * 2.75 = 12.375 \text{ in}^2$$

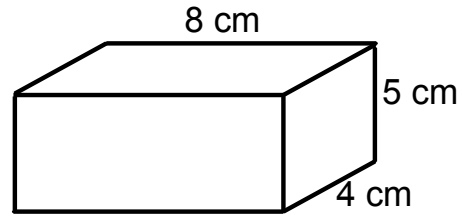
$$A = bh = 4.5 * 9 = 40.5 \text{ in}^2$$



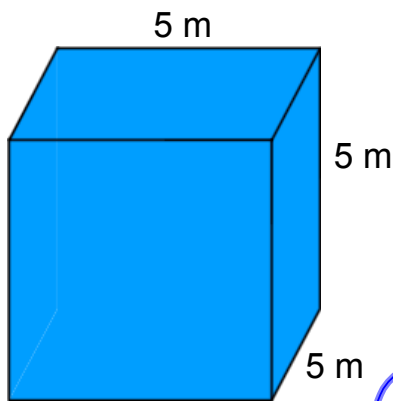
$$SA = 2(24.75) + 2(12.375) + 2(40.5)$$

$$SA = 155.25 \text{ in}^2$$

Ex 1: Find the surface area of the rectangular prism



2.



Find the surface area of the figure

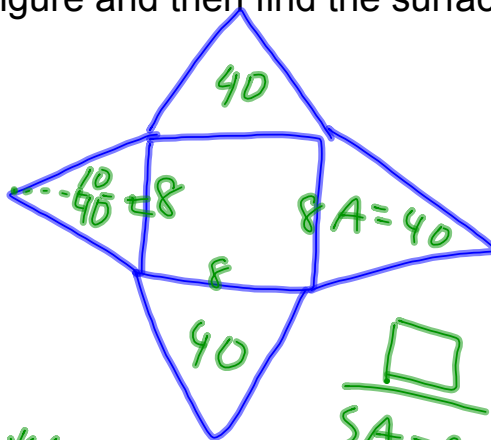
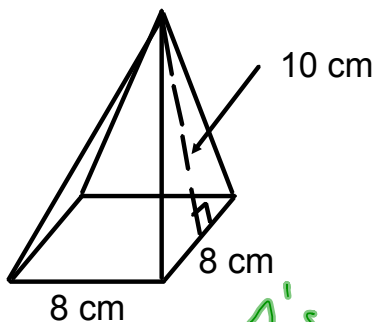
Top & Bottom: $25 + 25 = 50$

left & right: $25 + 25 = 50$

Front & Back: $25 + 25 = 50$

$SA = 50 + 50 + 50 = 150 m^2$

3. Draw the net of the figure and then find the surface area.



$$A = \frac{1}{2}bh$$

$$= \frac{1}{2}(8)(10)$$

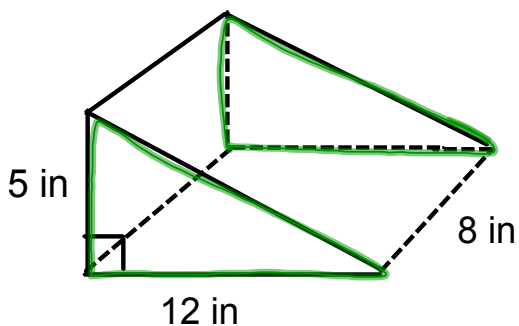
$$= 40$$

Δ 's
SA = 40 * 4
= 160 cm²

$$SA = 8 \cdot 8 = 64 \text{ cm}^2$$

$$SA = 160 + 64 = 224 \text{ cm}^2$$

4. Find the surface area of the figure below



Name: *triangular prism*

How many faces are there?

2 Δ's + 3 □'s

4.

$A = \frac{1}{2}(12)(5)$
 $A = 30 \text{ in}^2$

$A = bh$
 $A = 12(8)$
 $A = 96 \text{ in}^2$

$A = \frac{1}{2}(2)(5)$
 $A = 5 \text{ in}^2$

$A = bh$
 $A = (8)(13)$
 $A = 104 \text{ in}^2$

$A = bh$
 $A = 5(8)$
 $A = 40 \text{ in}^2$

$5^2 + 12^2 = c^2$
 $25 + 144 = c^2$
 $169 = c^2$
 $13 = c$

Final: $30 + 30 + 40 + 96 + 104 = 300 \text{ in}^2$