

Draw/Sketch/Interpret a Diagram using Bearings – SS6

To save paper this section has been moved to p79 after SS18.

Calculate the Surface Areas of Prisms, & Cylinders – SS7

Surface area is the total area of all the outer surfaces of the object. If you were painting it, it's all the sides you would paint.

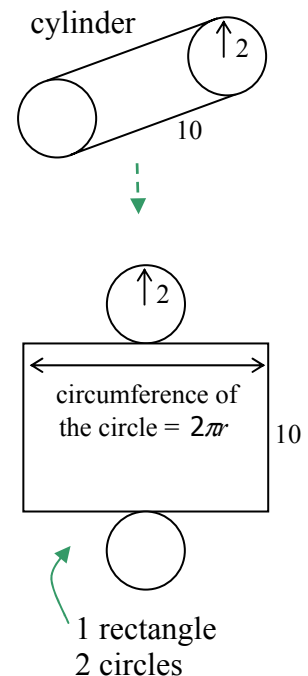
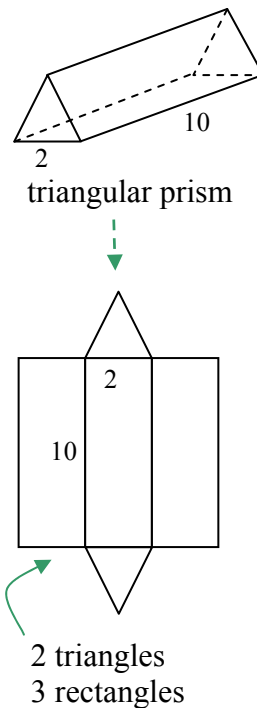
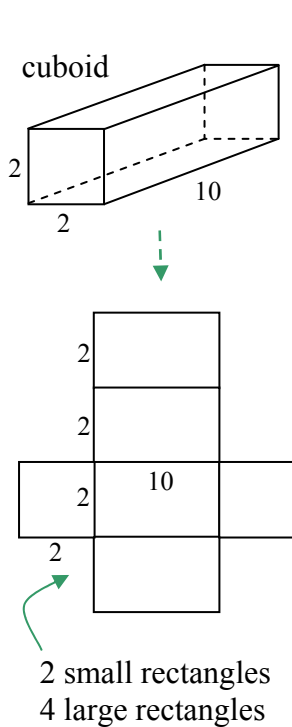
Strategy

1. Consider the outer surface or draw the net if this helps
2. Look for faces of the same size and shape
3. Find the area of each different face
4. Total together the areas to find the surface area of the solid

surface area of the shape can often be the area of the net

A net is the surfaces of a solid shape folded out flat

The nets of the following 3D shapes have been drawn, and the individual shapes that make up the nets listed:



Example

What is the surface area of the cylinder above?

Solution

Starting at stage 3 of the strategy:

3. Area of circle = $\pi r^2 = \pi \times 2^2 = 4\pi$
Area of rectangle = $2\pi \times h = 2\pi \times 2 \times 10 = 40\pi$
4. $2 \times 4\pi + 40\pi = 48\pi$ units² or 151 units² to 3 s.f.

Your Turn!!

- a) Find the surface area of the cuboid above.
- b) Find the surface area of a cuboid with dimensions 2cm by 3cm by 4cm.
- c) Find the surface area of a closed cylinder 5cm long and with a radius of 4cm.
Give your answer exactly in terms of π .

RAPID 'ACID' TEST – Blank out the page above before answering these!

1. Find the Surface Area of the two solid shapes:
Give your answer to ii) to 3s.f. **and** exactly in terms of π .

