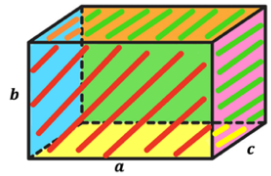
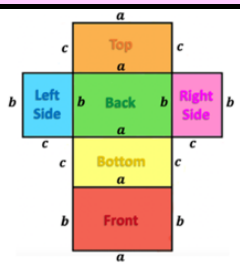
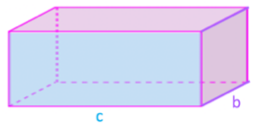
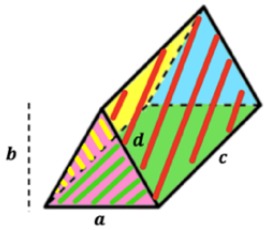
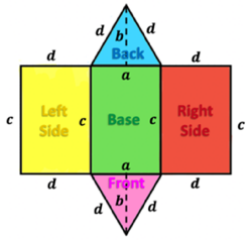
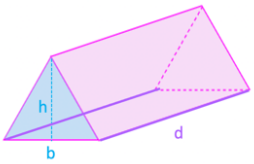
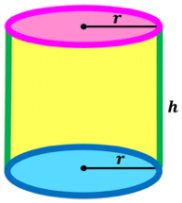
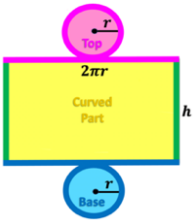
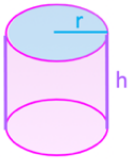
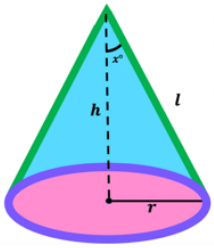
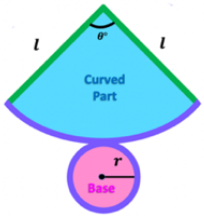
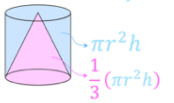
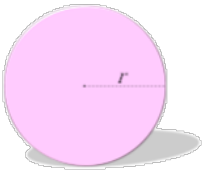
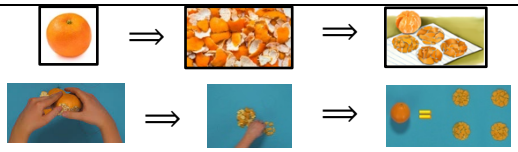
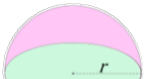
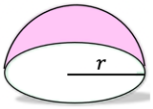
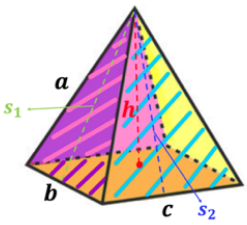
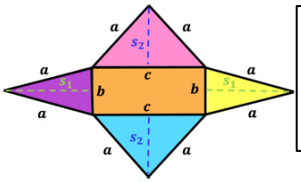
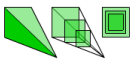
3D Shapes Condensed Summary Table	Surface Area (SA)	Volume (V)
Cuboid  Note: a cube is where all sides are the same length	 area of top + area of bottom + area of front + area of back + area of left side + area of right side $= ac + ac + ab + ab + bc + bc$	 area of cross section × depth = area of rectangle × depth $= acb$
Triangular Prism  	 area of base rectangle + area of left rectangle + area of right rectangle + area of back triangle + area of front triangle $= ac + cd + cd + \frac{1}{2}bd + \frac{1}{2}bd$	 area of cross section × depth = area of triangle × depth $= \frac{1}{2}bhc$
Cylinder  	 area of top circle + area of bottom circle + area of a rectangle $= \pi r^2 + \pi r^2 + 2\pi rh$	 area of cross section × depth =area of a circle ×depth $= \pi r^2 h$
Cone  	The problem here is that we don't readily know the angle θ in order to find the area of the sector part. We have to do quite a bit of work to find it. Instead, we just memorise the formula.  area of sector + area of circle Remember $= \pi rl + \pi r^2$	No uniform cross section now (all different sized circles), so we have a formula instead  To help remember the formula: 3 cones fit inside a cylinder  Remember $= \frac{1}{3}\pi r^2 h$
Sphere  	 Remember $= 4\pi r^2$	No uniform cross sections (all different sized circles), so again we have a formula instead  Remember $= \frac{4}{3}\pi r^3$
Hemisphere  	 Half the S.A. of a sphere + the EXPOSED circle $2\pi r^2 + \pi r^2 = 3\pi r^2$	 We half the volume of a sphere $= \frac{2}{3}\pi r^3$
Pyramid  	 area of base rectangle + area of pink triangle + area of blue triangle + area of purple triangle + area of yellow triangle $= bc + \frac{1}{2}as_2 + \frac{1}{2}as_2 + \frac{1}{2}as_1 + \frac{1}{2}as_1$ Note: You'll need to use 3D trig knowledge to find the any of the lengths if not given them	No uniform cross sections (all different sized squares or rectangles), so again we have a formula instead  Remember $= \frac{1}{3}(\text{base area})(\text{height})$ Did you know that the volume of a pyramid also applies to the volume of a cone? V = $\frac{1}{3}(\pi r^2)h$