MATHEMATICS 1000 (Calculus I)
Basic Geometrical Formulae

right triangle (legs a, b, hypotenuse c)	area	$A = \frac{1}{2}ab$
	perimeter	$P = a + b + c$
rectangle (length ℓ, width w)	area	$A = \ell w$
	perimeter	$P = 2\ell + 2w$
square (sidelength ℓ)	area	$A = \ell^2$
	perimeter	$P = 4\ell$
circle (radius r)	area	$A = \pi r^2$
	circumference	$C = 2\pi r$

Table 1: Basic two-dimensional geometrical formulae.

rectangular prism (length ℓ, width w, height h)	volume	$V = \ell w h$
	surface area	$S = 2[\ell w + wh + \ell h]$
cube (sidelength ℓ)	volume	$V = \ell^3$
	surface area	$S = 6\ell^2$
sphere (radius r)	volume	$V = \frac{4}{3}\pi r^3$
	surface area	$S = 4\pi r^2$
(right circular) cylinder[†] (radius r, height h)	volume	$V = \pi r^2 h$
	surface area	$S = 2\pi r^2 + 2\pi r h$
(right circular) cone[†] (radius r, height h)	volume	$V = \frac{1}{3}\pi r^2 h$
	surface area	$S = \pi r^2 + \pi r\sqrt{r^2 + h^2}$

Table 2: Basic three-dimensional geometrical formulae.

[†] You are not required to memorise the formulae related to cylinders and cones. If they are needed for the Final Exam, they will be provided to you.