SOME GEOMETRY FORMULAS

Although it is possible that a geometry formula other than one listed below could be needed, the ones below occur often enough throughout the calculus sequence that you should know them.

Distance between two points: $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

Midpoint: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

Pythagorean Theorem: $a^2 + b^2 = c^2$

Perimeter:	$P = 2L + 2W$	rectangle
	$C = 2\pi r$	circle
Areas:	$A = LW$	rectangle
	$A = \pi r^2$	circle
	$A = \frac{1}{2}bh$	triangle
	$S = 2\pi rh$	lateral surface of a cylinder
	$S = 2\pi r^2 + 2\pi rh$	total surface area of a closed cylinder
	$S = 2LW + 2WH + 2LH$	total surface area of a closed box
	$S = 4\pi r^2$	sphere
Volume:	$V = LWH$	rectangular box
	$V = \pi r^2 h$	cylinder
	$V = \frac{1}{3}\pi r^2 h$	cone
	$V = \frac{4}{3}\pi r^3$	sphere

Ratios for similar triangles: $\frac{a}{d} = \frac{c}{b}$ one possibility