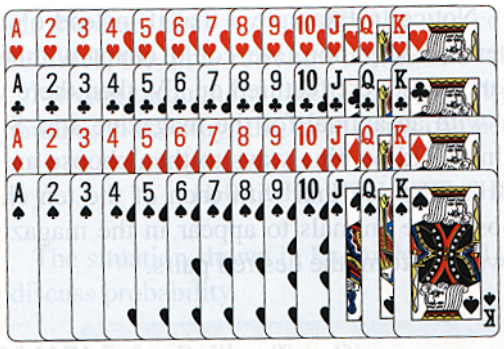
Formula Sheet for MGF 1106

Geometry

Area	trapezoid:	$A = \frac{1}{2}h(b_1 + b_2)$
	parallelogram	A = bh
Volume:	Cylinder	$V = \pi r^2 h$
	Cone	$V = \frac{1}{3}\pi r^2 h$
	Sphere	$V = \frac{4}{3}\pi r^3$
	Prism	V = Bh, where B is the area of the base
	Pyramid	$V = \frac{1}{3}Bh$, where B is the area of the base

Probability

Face Cards



Row 1: Red Hearts

Row 2: Black Clubs

Row 3: Red Diamonds

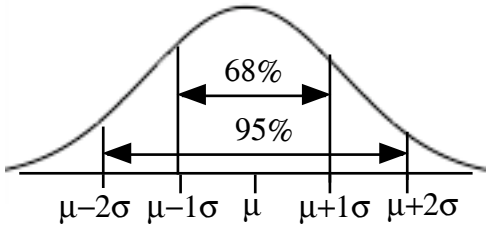
Row 4: Black Spades

P(A or B) = P(A) +P(B) – P(A $\cap$ B)

P(A and B) = P(A) X P(B)

Statistics

$$s = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}} \qquad z = \frac{x-\mu}{\sigma}$$



Logic

Valid Argument Forms

Modus Ponens	**Modus Tollens**	**Disjunctive Syllogism**	**Reasoning by Transitivity**
$p \to q$	$p \to q$	$p \vee q$	$p \to q$
$\underline{p}$	$\underline{\sim q}$	$\underline{\sim p}$	$\underline{q \to r}$
q	$\sim p$	q	$p \to r$

Invalid Argument Forms

Fallacy of the Converse	Fallacy of the Inverse	Conditional Statement: $p \to q$	
$p \to q$	$p \to q$	Converse:	$q \to p$
$\underline{q}$	$\underline{\sim p}$	Inverse:	$\sim p \to \sim q$
p	$\sim q$	Contrapositive	$\sim q \to \sim p$