MDM4U Unit 5 – Distributions – Formula Sheet

Margins of Error $E = \pm z\sqrt{\frac{pq}{n}}$

Expected Value $E(X) = \sum \$x \times P(x)$

Normal	$z = \frac{x - \bar{x}}{\sigma}$	$\bar{x} = \frac{\sum x}{n}$	$\sigma = \sqrt{\frac{\sum(x - \bar{x})^2}{n}}$
Uniform	$P(x) = \frac{1}{n}$	$E(x) = \frac{\min(x) + \max(x)}{2}$	
Binomial	$P(x) = C(n, x) \times p^x \times q^{(n-x)}$	$E(x) = \bar{x} = n \times p$	$\sigma = \sqrt{npq}$
Geometric	$P(x) = q^x\, p$	$E(x) = \frac{q}{p}$	
Hyper-geometric	$P(x) = \frac{C(a, x) \times C(n - a,\ r - x)}{C(n, r)}$	$E(x) = \frac{ra}{n}$	

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