Advanced Math 9.6+9.7 Review

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75) $26 \cdot 26 \cdot 10 \cdot 26 \cdot 26 \cdot 26$

$118,813,760$

76) $2 \cdot 2 \cdot 2 = 8$

77) $P(X, X) = \frac{10}{10} \cdot \frac{1}{9} = \frac{1}{9}$

78) $P(\text{order}) = \frac{1}{5!} = \frac{1}{120}$

Greater!

79) $P(3) = \frac{1}{6} = \frac{6}{36}$

vs

$P(\text{sum of } 6) = \frac{5}{36}$

80) $P(\text{each die face}) = \frac{6}{6} \frac{5}{6} \frac{4}{6} \frac{3}{6} \frac{2}{6} \frac{1}{6} = \frac{720}{46,656} = \frac{5}{324}$

81) $P(\text{At Least One Tail}) = 1 - P(\text{No Tails})$

$1 - \frac{1}{2^5} = \frac{31}{32}$

82) $P(3 \text{ aces}) = (.8)(.8)(.8)$

$= .512$

$\div 2$

83) $\frac{{}_{13}C_1 \cdot {}_4C_2 \cdot {}_{12}C_1 \cdot {}_4C_2 \cdot {}_{11}C_1 \cdot {}_4C_1}{{}_{52}C_5}$

$= 0.0475$

can be replaced with ${}_{44}C_1$

OR $\frac{{}_{13}C_2 \cdot {}_4C_2 \cdot {}_4C_2 \cdot {}_{11}C_1 \cdot {}_4C_1}{{}_{52}C_5} = 0.0475$

OR $\frac{{}_{52}C_1 \cdot {}_3C_1 \cdot {}_{48}C_1 \cdot {}_3C_1 \cdot {}_{44}C_1}{\div 2! \quad \div 2! \quad \div 2!}$ over ${}_{52}C_5$

Divide to eliminate Ambiguous Cases.

OR $\frac{52 \cdot 3 \cdot 48 \cdot 3 \cdot 44}{\div 2 \quad \div 2 \quad \div 2}$

84) a) $\frac{208}{500} = 0.416$

b) $\frac{400}{500} = 0.8$

c) $\frac{37}{500} = 0.074$