

39 (524)  $P(\text{2 successes in 2 trials}) = P(\text{2 successes}) \cdot P(\text{1 success}) = \binom{5}{1} \left(\frac{1}{6}\right)^1 \left(\frac{5}{6}\right)^4 \cdot \binom{3}{2} \left(\frac{1}{6}\right)^2 \left(\frac{5}{6}\right)^1 = 0.0279$

$\Rightarrow P(\text{2 successes in 1 trial}) = P(\text{1 success}) \cdot P(\text{2 successes}) = \binom{5}{2} \left(\frac{1}{6}\right)^2 \left(\frac{5}{6}\right)^3 \cdot \binom{3}{1} \left(\frac{1}{6}\right)^1 \left(\frac{5}{6}\right)^2 = 0.0558$

43 (525)  $P(\text{2 successes in 2 trials}) = P(\text{2 successes in 2 trials}) \cdot P(\text{1 success in 1 trial}) = \binom{4}{2} 0.4^2 0.6^2 \cdot \binom{3}{0} 0.2^0 0.8^3 = 0.1769472$

$\Rightarrow P(\text{1 success in 2 trials}) = P(\text{1 success in 1 trial}) \cdot P(\text{2 successes in 1 trial}) = \binom{4}{1} 0.4^1 0.6^3 \cdot \binom{3}{1} 0.2^1 0.8^2 = 0.13271$

$\Leftarrow P(\text{0 successes in 2 trials}) = P(\text{0 successes in 1 trial}) \cdot P(\text{2 successes in 1 trial}) = \binom{4}{0} 0.4^0 0.6^4 \cdot \binom{3}{2} 0.2^2 0.8^1 = 0.01244$

$\Rightarrow P(\text{2 successes in 1 trial}) = P(\text{2 successes in 1 trial}) + P(\text{1 success in 1 trial}) + P(\text{0 successes in 1 trial}) = \frac{1}{10} + \frac{1}{5} + \frac{1}{2} = 0.322097$

46 (525)  $P(\text{1 success}) = P(\text{1 success}) + P(\text{0 successes}) = \binom{3}{1} \left(\frac{1}{2}\right)^3 \left(\frac{1}{2}\right)^0 + \binom{3}{3} \left(\frac{1}{2}\right)^0 \left(\frac{1}{2}\right)^3 = \frac{1}{4}$

$\Rightarrow P(\text{2 successes in 1 trial}) = \binom{5}{2} \left(\frac{1}{2}\right)^2 \left(\frac{3}{4}\right)^3 = \frac{135}{512}$   
 1/4 - מספרים שאלה מן  
 3/4 - מספר שאלה מן

50 (526)  $P(\text{1 success}) = P(\text{1 success}) + P(\text{0 successes}) = \binom{3}{1} \left(\frac{4}{6}\right)^3 \left(\frac{2}{6}\right)^0 + \binom{3}{3} \left(\frac{4}{6}\right)^0 \left(\frac{2}{6}\right)^3 = \frac{1}{3}$

$\Rightarrow P(\text{2 successes in 1 trial}) = \binom{4}{2} \left(\frac{1}{3}\right)^2 \left(\frac{2}{3}\right)^2 = \frac{8}{27}$   
 1/3 - מספר שאלה מן  
 2/3 - מספר שאלה מן

54 (527)  $P(\text{2 successes in 1 trial}) = 0.3 \cdot 0.3 \cdot 0.2 \cdot 0.4 = 0.01225$   
 $\Rightarrow P(\text{2 successes}) = \binom{4}{2} 0.3^2 0.65^2 = 0.3105$   $\Leftarrow P(\text{1 success}) = P(\text{1 success}) + P(\text{1 success}) = \binom{4}{3} 0.4^3 0.6^1 + \binom{4}{4} 0.4^4 = 0.1792$

$\Rightarrow P(\text{1 success in 2 trials}) = 1 - P(\text{2 successes}) = 1 - \binom{4}{2} 0.25^2 0.75^2 = 1 - 0.2109 = 0.78906$

59 (527)  $P(\text{1 success in 3 trials}) = \binom{4}{3} 0.3^3 0.7^1 = 0.0456$

$\Rightarrow P(\text{1 success in 3 trials}) = \binom{4}{3} 0.3^3 0.5 = 0.054$

64 (528)  $P(\text{1 success}) = 0.01024 = \binom{5}{5} x^5 (1-x)^0 = x^5 \Rightarrow \boxed{x=0.4}$

$P(\text{1 success in 3 trials}) = P(\text{1 success}) + P(\text{1 success}) + P(\text{1 success}) = \binom{5}{3} 0.4^3 0.6^2 + \binom{5}{4} 0.4^4 0.6^1 + 0.01204 = 0.31744$

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