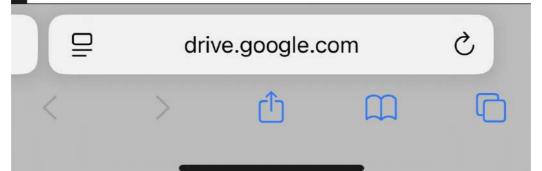


1

Page 1 / 2







打开



scan_kass ... 24-16.pdf







MDM4U

Unit 6: Probability Distributions

Example 2: TJ is getting a new cell phone number. The first three digits of the number will be 446 and all combinations for the four remaining digits are equally likely. TJ's favourite numbers are the prime numbers 2, 3, 5 and 7.

 a) Construct the probability distribution for the number of these prime digits in TJ's new number.

$$n = 4$$

$$p = 0.4$$

$$q = 0.6$$

$$2$$

$$4C_{2} (0.6)^{2} (0.4)^{3} = 0.35$$

$$4C_{3} (0.6)^{2} (0.4)^{3} = 0.35$$

$$4C_{3} (0.6) (0.4)^{3} = 0.15$$

$$4 (0.6)^{4} = 0.03$$

b) What is the expected number of these prime digits in TJ's new cell phone number?

Example 3: A jar contains 12 red balls and 8 green balls. Six balls are removed without replacement.

a) Explain why the binomial distribution is not a suitable model for this problem.

b) If the balls are withdrawn one after another with replacement, each time, determine the probability that at least 3 balls are red. (本 文 rep 由 of red balls

Method
$$\mathbb{O}^{c}$$
 Indirect
 $1 - P(X=0) - P(X=1) - P(X=2)$
 $= 1 - (0.4)^{6} - 601(0.6)(0.4)^{5} - 601(0.6)^{2}(0.4)^{4}$
 $= 1 - 0.0041 - 0.037 - 0.14$
 $= 0.819$
 $= 81.9^{6}$

2

Page 2 / 2



p=0.6

drive.google.com







