Probability Worksheet (Not Equally Likely Outcomes)

1. Luis works in an office, and the phone rings occasionally. The possible number of phone calls he receives in an afternoon and their probabilities are given in the table below.

Number of Phone Calls	0	1	2	3	4
Probability	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{2}{9}$	$\frac{1}{3}$	$\frac{1}{9}$

a) Find the probability that Luis receives 3 or 4 phone calls.

b) Find the probability that Luis receives fewer than 2 phone calls.

c) Find the probability that Luis receives 2 or fewer phone calls.

d) Find the probability that Luis does not receive 4 phone calls.

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Probability	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{2}{9}$	$\frac{1}{3}$	$\frac{1}{9}$

a) Find the probability that Luis receives 3 or 4 phone calls.

The probability that Luis receives 3 or 4 phone calls is $\frac{1}{3}+\frac{1}{9}=\frac{3}{9}+\frac{1}{9}=\frac{4}{9}$.

b) Find the probability that Luis receives fewer than 2 phone calls.

The probability that Luis receives fewer than 2 phone calls is $\frac{1}{6}+\frac{1}{6}=\frac{2}{6}=\frac{1}{3}$.

c) Find the probability that Luis receives 2 or fewer phone calls.

The probability that Luis receives 2 or fewer phone calls is $\frac{2}{9}+\frac{1}{6}+\frac{1}{6}=\frac{4}{18}+\frac{3}{18}+\frac{3}{18}=\frac{10}{18}=\frac{5}{9}$.

d) Find the probability that Luis does not receive 4 phone calls.

The probability that Luis does not receive 4 phone calls is $1-\frac{1}{9}=\frac{9}{9}-\frac{1}{9}=\frac{8}{9}$.