

PART of Review

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 1) Please use the sample space for drawing from a deck of 52 playing cards. (Show your work when necessary.)

What is the probability of drawing a black "5"? $\frac{2}{52} = \frac{1}{26}$ what about any red card? $\frac{26}{52} = \frac{1}{2}$

- 2) What is the probability of drawing A) a black jack or a red card? $\frac{2}{52} + \frac{26 \text{ red}}{52} - 0 = \frac{28}{52} = \frac{7}{13}$ B) a "2" or a red card? $\frac{4}{52} + \frac{26 \text{ red}}{52} - \frac{2 \text{ red 2's}}{52} = \frac{28}{52} = \frac{7}{13}$

- 3) If a bowl contains 3 red marbles, 5 orange marbles, 2 yellow marbles and 4 green marbles. What is the probability of drawing a red marble?

$\frac{3}{14}$

- 4) What is the probability of drawing a yellow marble or a green marble?

Addition $\frac{2}{14} + \frac{4}{14} = \frac{6}{14} = \frac{3}{7}$

- 5) What is the probability of drawing an orange marble, replacing it and then drawing a green marble?

Multiplication Rule #1 $\frac{5}{14} \cdot \frac{4}{14} = \frac{20}{196} = \frac{5}{49}$

- 6) What is the probability of drawing a yellow marble followed by a red marble, without replacement?

Multiplication Rule #1 $\frac{2}{14} \cdot \frac{3}{13} = \frac{6}{182} = \frac{3}{91}$

- 7) What is the probability of drawing 2 orange marbles in a row, without replacement?

$\frac{5}{14} \cdot \frac{4}{13} = \frac{20}{182} = \frac{10}{91}$

- 8) Julie's Dad came up with a new plan to give her an allowance each week. In one brown paper bag (Bag A) he placed a \$1 bill, \$5 bill and \$10 bill. In a second brown paper bag (Bag B) he placed a \$5, a \$10, and a \$20 bill. Julie had to select one bill from each bag and that was her allowance for the next week. Make a sample space showing all possible outcomes for Julie's allowance.

		Bag A		
		\$1	\$5	\$10
Bag B	\$5	1,5 ^{\$6}	5,5 ^{\$10}	10,5 ^{\$15}
	\$10	1,10 ^{\$11}	5,10 ^{\$15}	10,10 ^{\$20}
	\$20	1,20 ^{\$21}	5,20 ^{\$25}	10,20 ^{\$30}

- 9) Make a probability distribution table of Julie's weekly allowance.

Probability Distribution of Julie's Weekly Allowance

Allowance in \$ dollars	Probability
\$6	$\frac{1}{9}$
\$10	$\frac{1}{9}$
\$11	$\frac{1}{9}$
\$15	$\frac{2}{9}$
\$20	$\frac{1}{9}$
\$21	$\frac{1}{9}$
\$25	$\frac{1}{9}$
\$30	$\frac{1}{9}$

- 10) What is the probability that Julie will get less than \$20 for her allowance?

$\frac{5}{9}$

- 11) Which amount of allowance is Julie MOST likely to get?

\$15

- 12) What is Julie's chances of getting \$15 or \$10 for her allowance?

$\frac{3}{9} = \frac{1}{3}$

- 13) What is the sum of all the probabilities in the distribution table?

$\frac{9}{9}$ or 1

- 14) According to a Gallup pol, 45% of Americans own a dog, 34% own a cat, while 20% reported they owned both a dog and a cat. Find the probability that an American selected at random owns a dog or a cat. Show your work.

Addition Rule: $P(\text{Dog or Cat}) = P(\text{Dog}) + P(\text{Cat}) - P(\text{Dog and Cat})$
 $= .45 + .34 - .20$
 $= .79 - .20 = .59$ or 59%