

1) A reptile store has 11 iguanas, 6 pythons, 15 boas, and 8 king snakes.

a) Organize this data in a frequency table and graph the probability distribution for the reptiles in the store.

	I	P	B	K
Freq.	11	6	15	8
Prob	$\frac{11}{40}$	$\frac{6}{40}$	$\frac{15}{40}$	$\frac{8}{40}$

b) Find the probability that one reptile chosen at random is a python.

$\frac{6}{40}$

Use the results of the survey below to find each conditional probability.

How many radios do you have in your home?

	0 radios	1 radio	2 radios	3+ radios
Male respondents	1	5	16	10
Female respondents	1	9	13	12

32
35

29

2) $P(\text{male} \mid \text{exactly 2 radios}) = \frac{16}{29}$

3) $P(\text{exactly 2 radios} \mid \text{male}) = \frac{16}{32}$

4) $P(0 \text{ radios} \mid \text{female}) = \frac{1}{35}$

5) $P(0 \text{ or exactly 1 radio} \mid \text{male}) = \frac{6}{32}$

Multiple Choice.

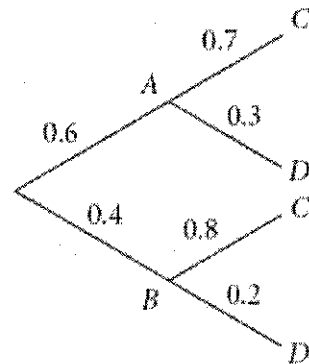
6) Which of these is equal to 0.32 according to the tree diagram?

A. $P(B \text{ and } C)$

B. $P(C \mid B) = .8$

C. $P(B \mid C)$

D. $P(A \text{ and } C) = .42$



Suppose you select a number at random from the sample space $\{-3, -2, -1, 0, 1, 2, 3, 4\}$. Find each probability.

7) $P(\text{the number is positive}) = \frac{4}{8}$

8) $P(\text{the number is even}) = \frac{3}{8} \text{ or } \frac{4}{8}$

9) $P(\text{the number is less than 2}) = \frac{5}{8}$

10) $P(\text{the number is a multiple of 3}) = \frac{1}{8}$
 multiples are positive only

A jar contains four blue marbles and two red marbles. Suppose you choose a marble at random, and do not replace it. Then you choose a second marble. Find the probability of each event.

11) You select a red marble and then a blue marble. $\frac{8}{30}$

12) You select a red marble and then a red marble. $\frac{2}{30}$

Evaluate each expression.

13) $4!$ 14) $\frac{8!}{6!2!}$ 15) ${}_6C_3$ 16) ${}_7P_2$
24 **28** **20** **42**

Indicate whether each situation involves combination or permutation. Then solve.

17) You must complete the following chores: take out the trash, wash the dishes, vacuum the carpet, clean your room, make your bed, feed the fish. In how many different orders can the chores be done?

${}_6P_6$ or $6!$ 720 ways

18) A jar of candy contains 8 different candies. Your teacher allows you to choose 3 candies from the jar. How many possible outcomes could there be?

${}_8C_3 = 56$ ways

Integers from 1 to 100 are randomly selected. State whether the events are mutually exclusively.

19) Even integers and multiples of 3

NOT m.E.

20) Integers less than 40 and integers greater than 50

m.E.

21) Odd integers and multiples of 4

m.E.

22) Integers less than 50 and integers greater than 40

NOT m.E.

Classify each pair of events as *dependent* or *independent*.

23) A member of the junior class and a second member of the same class are randomly selected. **DEP**

24) A member of the junior class and a member of another class are randomly chosen. **IND**