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1. **(1 point)** Library/UMN/algebraKaufmannSchwitters/ks_15_5_42.pg

A bag contains 3 red marbles and 4 white marbles. Two marbles are drawn in succession without replacement. Find the probabilities of the following events:

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1. The first marble drawn is red and the second is white.
Answer: _____

2. Both marbles drawn are red.
Answer: _____

Correct Answers:

- 3/7*4/(2*3)
- 3/7*(3-1)/(2*3)

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2. **(1 point)** Library/UMN/algebraKaufmannSchwitters/ks_15_5_12.pg

In a recent election there were 1000 eligible voters. They were asked to vote on two issues, A and B. The results were as follows: 250 people voted for A, 450 people voted for B, and 50 people voted for A and B. If one person is chosen at random from the 1000 eligible voters, find the following probabilities:

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1. The person voted for A, given that he voted for B.
Answer: _____

2. The person voted for B, given that he voted for A.
Answer: _____

Correct Answers:

- 50/450
- 50/250

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3. **(1 point)** Library/UMN/algebraKaufmannSchwitters/ks_15_4_38.pg

One hundred people were surveyed, and one question pertained to their educational background. The results of this question and their genders are given in the following table.

	Female (F)	*Male (F')*	*Total*
College degree (D)	22	28	50
No college degree (D')	30	20	50
Total	52	48	100

If a person is selected at random from those surveyed, find the probability if each of the following events.

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1. The person is female or has a college degree.
Answer: _____

2. The person is male or does not have a college degree.
Answer: _____

3. The person is female or does not have a college degree.
Answer: _____

Correct Answers:

- 1-20/100
- 1-22/100
- 1-28/100

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4. **(1 point)** Library/Rochester/setProbability4Conditional/ur_pb_4_1.pg

If $P(A) = 0.4$, $P(B) = 0.6$, and $P(A \cap B) = 0.4$, then
(a) $P(A|B) =$_____ and
(b) $P(B|A) =$_____

Correct Answers:

- 0.666666666666667
- 1

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5. **(1 point)** Library/Rochester/setProbability4Conditional/ur_pb_4_12.pg

In a certain community, 25% of the families own a dog, and 20% of the families that own a dog also own a cat. It is also known that 33% of all the families own a cat.

What is the probability that a randomly selected family owns a cat? _____

What is the conditional probability that a randomly selected family owns a dog diven that it doesn't own a cat? _____

Correct Answers:

- 0.33
- 0.298507462686567

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6. **(1 point)** Library/Rochester/setProbability4Conditional/ur_pb_4_3a.pg

A box contains one yellow, two red, and three green balls. Two balls are randomly chosen without replacement. Define the following events:

A : { One of the balls is yellow }

B : { At least one ball is red }

C : { Both balls are green }

D : { Both balls are of the same color }

Find the following conditional probabilities:
(a) $P(\overline{B}|A) =$ _____

(b) $P(B|\overline{D}) =$ _____

(c) $P(D|\overline{C}) =$ _____

Correct Answers:

- 0.6
- 0.727273
- 0.0833333

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7. **(1 point)** Library/Mizzou/Finite_Math/Probability_Conditional/Cond1.pg

Suppose events A, B, C, and D have probabilities as follows:

	A	B	Totals
C	0.14	0.26	0.4
D	0.32	0.28	0.6
Totals	0.46	0.54	1.00

Find the following:

i) $P(A \cap D) =$ _____

ii) $P(A \cup D) =$ _____

iii) $P(D \mid A) =$ _____

iv) $P(B \mid C) =$ _____

Correct Answers:

- 0.32
- 0.74
- 0.695652
- 0.65

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8. **(1 point)** Library/UVA-Stat/setStat212-Homework03/stat212-HW03-11.pg

Suppose that A and B are two independent events for which $P(A) = 0.19$ and $P(B) = 0.75$. Find each of the following:

A. $P(A|B) =$ _____

B. $P(B|A) =$ _____

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

D. $P(A \text{ or } B) =$ _____

Correct Answers:

- 0.19
- 0.75
- 0.1425
- 0.7975

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9. **(1 point)** Library/UVA-Stat/setStat212-Homework03/stat212-HW03-13.pg

A firm has classified its customers in two ways: according to whether the account is overdue and whether the account is new (less than 12 months) or old. An analysis of the firm's records provided the input for the following table of joint probabilities:

	Overdue	Not overdue
New	0.05	0.16
Old	0.52	0.27

One account is selected at random.

A. If the account is overdue, what is the probability that it is new? _____

B. If the account is new, what is the probability that it is overdue? _____

Correct Answers:

- 0.087719298245614
- 0.238095238095238

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10. **(1 point)** Library/UVA-Stat/setStat212-Homework03/stat212-HW03-12.pg

Suppose that A and B are two events for which $P(A) = 0.23$, $P(B) = 0.78$, and $P(B|A) = 0.53$ Find each of the following:

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

B. $P(A \text{ or } B) =$ _____

C. $P(A|B) =$ _____

Correct Answers:

- 0.1219
- 0.8881
- 0.156282051282051

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11. **(1 point)** Library/ASU-topics/setProbability/events5.pg

What is the probability that a 6-digit phone number contains at least one 8? (Repetition of numbers and lead zero are allowed).

Answer: _____

Correct Answers:

- 1-(9/10)^6

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12. **(1 point)** Library/ASU-topics/setProbability/cond11.pg

If $P(E \cap F) = 0.119$, $P(E|F) = 0.14$, and $P(F|E) = 0.7$, then

(a) $P(E) =$_____

(b) $P(F) =$_____

(c) $P(E \cup F) =$_____

Correct Answers:

- 0.17
- 0.85
- 0.901

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13. **(1 point)** Library/ASU-topics/setProbability/cond15.pg

A card is drawn from a regular deck of 52 cards and is then put back in the deck. A second card is drawn. What is the probability that:

(a) The first card is red. _____

(b) The second card is hearts given that the first is red. _____

(c) The first card is red and the second is hearts. _____

Correct Answers:

- 0.5
- 0.25
- 0.125

14. **(1 point)** Library/ASU-topics/setProbability/events7.pg

If the letters in the word POKER are rearranged, what is the probability that the word will begin with the letter E and end with the letter R?

Answer: _____

Correct Answers:

- 0.05

15. **(1 point)** Library/ASU-topics/setProbability/cond9.pg

If $P(A \cap B) = 0.27$, and $P(A|B) = 0.3$, then $P(B) =$_____

Correct Answers:

- 0.9

16. **(1 point)** Library/ASU-topics/setProbability/cond8.pg

In a survey of 278 people, the following data were obtained relating gender to political orientation:

	Republican (R)	Democrat (D)	Independent (I)	Total
Male (M)	73	35	38	146
Femal (F)	38	76	18	132
Total	111	111	56	278

A person is randomly selected. What is the probability that the person is:

a) Male? _____

b) Male and a Democrat? _____

c) Male given that the person is a Democrat? _____

d) Republican given that the person is Male? _____

e) Female given that the person is an Independent? _____

f) Are the events Male and Republican independent? _____ Enter *yes* or *no* .

Correct Answers:

- 0.525179856115108
- 0.12589928057554
- 0.315315315315315
- 0.5
- 0.321428571428571
- no

17. **(1 point)** Library/ASU-topics/setProbability/cond7.pg

In a survey of 193 people, the following data were obtained relating gender to color-blindness:

	Color-Blind (C)	Not Color - Blind $\overline{C}$	Total
Male (M)	86	20	106
Female (F)	73	14	87
Total	159	34	193

A person is randomly selected. What is the probability that the person is:

a) Male? _____

b) Male and Color-blind? _____

c) Male given that the person is Color-blind? _____

d) Color-blind given that the person is Male? _____

e) Female given that the person is not Color-blind? _____

f) Are the events Male and Color blind independent? _____ Enter *yes* or *no* .

Correct Answers:

- 0.549222797927461
- 0.44559585492228
- 0.540880503144654
- 0.811320754716981
- 0.411764705882353
- no

18. **(1 point)** Library/NAU/setProbability/Bayes2.pg

Factories A, B and C produce computers. Factory A produces 2 times as many computers as factory C, and factory B produces 7 times as many computers as factory C. The probability that a computer produced by factory A is defective is 0.019, the probability that a computer produced by factory B is defective is 0.028, and the probability that a computer produced by factory C is defective is 0.046.

A computer is selected at random and it is found to be defective. What is the probability it came from factory A?

Answer:_____

Correct Answers:

- 0.135714285714286

19. **(1 point)** Library/NAU/setProbability/compprob5.pg

Real estate ads suggest that 58 % of homes for sale have garages, 26 % have swimming pools, and 16 % have both features.

What is the probability that a home for sale has

a) a pool or a garage?

Answer = _____ %

b) neither a pool nor a garage?

Answer = _____ %

c) a pool but no garage?

Answer = _____%

Correct Answers:

- 68

- 32
- 10

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20. **(1 point)** Library/NAU/setProbability/Bayes6.pg

Of 340 male and 260 female employees at the Flagstaff Mall, 190 of the men and 160 of the women are on flex-time (flexible working hours). Given that an employee selected at random from this group is on flex-time, what is the probability that the employee is a woman?

Answer: _____

Correct Answers:

- 0.457142857142857

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21. **(1 point)** Library/NAU/setProbability/and_or.pg

Consider the probablility model with sample space A,B,C and P(A)=0.1, P(B)=0.3, P(C)=0.6.Then
(a) P(A or C) = _____.
(b) P(B and C) = _____.

Correct Answers:

- 0.7
- 0