## WORKSHEET 4

1- If there is a $\mathbf{2 0 \%}$ chance that it will rain tomorrow, what is the probability that it will not rain?
A. 0
B. 0.2
C. 1
D. 0.8

2- The number of outcomes in the sample space for the gender of the children if a family has three children is $\qquad$
A. $\mathrm{S}=\{\mathrm{BB}, \mathrm{GB}, \mathrm{BG}, \mathrm{GG}\}$
B. $\mathrm{S}=\{\mathrm{BBB}, \mathrm{BBG}, \mathrm{BGB}, \mathrm{BGG}, \mathrm{GBB}, \mathrm{GBG}, \mathrm{GGB}, \mathrm{GGG}\}$
C. 8
D. 3

3- "The probability that a storm will happen next week is $\mathbf{5 0 \%} \%$." This is an example of $\qquad$
A. empirical probability
B. subjective probability
C. classical probability
D. a sample space

4- If a family has three children, find the probability that two of them are boys.
A. $1 / 8$
B. $1 / 4$
C. $3 / 8$
D. $3 / 4$

5- If $P(A)=0.4, P(B)=0.3$, and $P(A$ and $B)=0.12$, then the events $A$ and $B$ are said to be:
A. certain events
B. dependent events
C. independent events
D. mutually exclusive events

6- If $P(A$ and $B)=0.2$ and $P(B \mid A)=0.5$, find $P(\bar{A})$.
A. 0.6
B. 0.7
C. 0.4
D. 0.9

7- It is known that $\mathbf{4 0 \%}$ of men are overweight. If $\mathbf{3}$ men are selected at random, find the probability that all of them are overweight.
A. 0.216
B. 0.784
C. 0.936
D. 0.064
**The table below shows the distribution of students in a classroom at King AbdulAziz University. Answer the questions (8 and 9).

|  | Biology | Physics |
| :---: | :---: | :---: |
| Female | 15 | 12 |
| Male | 15 | 8 |

8- Find the probability that a student chosen at random is a male or studies biology.
A. 0.30
B. 1.06
C. 0.76
D. 0.28

9- Find the probability that a student chosen at random is a female and studies physics.
A. 0.60
B. 0.24
C. 0.44
D. 0.22

10- Box A contains 4 red balls and 2 white balls. Box $B$ contains 2 red balls and 2 white balls. A die is rolled. If the outcome is an even number, a ball is drawn from box $A$. If the outcome is an odd number, a ball is drawn from box $B$. Find the probability that a red ball is drawn.
A. $3 / 8$
B. $3 / 5$
C. $7 / 12$
D. $7 / 6$

11- A box contains apples and oranges. A person selects two fruits without replacement. If the probability of selecting an apple and an orange is $17 / 38$, and the probability of selecting an orange on the first draw is $\mathbf{5 / 9}$, find the probability of selecting an apple on the second draw given that the first fruit selected was an orange.
A. 0.249
B. 1
C. 0.805
D. 0.444

12- A box contains 9 apples, 3 of which are green. If 5 apples were selected at random, find the probability that exactly 2 are green.
A. 0.476
B. 0.048
C. 0.083
D. 0.183

13- A company's ID cards consist of 2 letters followed by 2 digits. How many different cards can be made if repetitions are not allowed?
A. 740
B. 58,500
C. 776
D. 67,600

14- A JARIR store has 5 HP laptops and 4 SONY laptops on the counter. If two customers purchased a laptop, find the probability that one of each laptop was purchased.
A. $5 / 9$
B. $1 / 20$
C. $5 / 18$
D. $1 / 4$

15- How many different ways can 2 tickets be selected from 6 tickets if each ticket wins a different prize?
A. 2
B. 15
C. 12
D. 30

## Answer Key:

1. D
2. C
3. B
4. C
5. C
6. A
7. D
8. C
9. B
10. C
11. C
12. A
13. B
14. A
15. D
