STATISTICS & PROBABILITY

ASSESSMENTS

CCSS 7.SP

Name: _____ Date: _____ Period: _____

Statistics & Probability Assessment (1)

Probability: Select the correct probability for the given questions.	
1.) When flipping a coin, what is the probability of getting tails? a.) $\frac{1}{4}$ b.) $\frac{1}{2}$ c.) $\frac{1}{5}$ d.) $\frac{1}{6}$	2.) When rolling a six-sided dice, what is the probability of getting a number greater than 4? a.) $\frac{1}{2}$ b.) $\frac{4}{6}$ c.) $\frac{2}{3}$ d.) $\frac{1}{6}$
3.) The letters "KELLY" are in a bag. What is the probability of pulling out a letter that is a vowel? a.) $\frac{1}{5}$ b.) $\frac{3}{5}$ c.) $\frac{4}{5}$ d.) $\frac{2}{5}$	4.) A bag contains 5 red marbles, 3 blue marbles, and 2 yellow marbles. What is the probability of selecting a yellow marble? a.) $\frac{1}{5}$ b.) $\frac{1}{10}$ $\frac{1}{5}$
Probability: Select the correct probability for the given questions.	
5.) When rolling a six-sided dice, what is the probability of getting the number 5 two times in a row? a.) $\frac{1}{18}$ b.) $\frac{1}{6}$ c.) $\frac{1}{36}$ d.) $\frac{5}{36}$	6.) When flipping a coin and rolling a dice, what is the probability of flipping tails and rolling a 6? a.) $\frac{5}{12}$ b.) $\frac{5}{6}$ c.) $\frac{1}{6}$ d.) $\frac{1}{12}$
7.) A bag contains blue marbles, 3 yellow marbles, 2 purple marbles and green marbles. A marble is selected and then replaced. A second marble is chosen. What are the odds of selecting a blue marble then a green marble? a.) $\frac{1}{}$ $\frac{1}{20}$ c.) $\frac{4}{10}$ d.) $\frac{2}{5}$	8.) A baseball player makes a hit 1 out of every 4 at bat. What is the probability that they get two hits in a row? a.) $\frac{1}{16}$ b.) $\frac{1}{2}$ c.) $\frac{1}{4}$ d.) $\frac{1}{8}$

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Probability: Select the correct probability for the given questions.	
9.) A bag contains 1 blue marbles, 3 yellow marbles, 2 purple marbles, and 4 green marbles. A marble is selected and is <u>not</u> replaced. A second marble is chosen. What are the odds of selecting a blue marble then a green marble? a.) $\frac{4}{100}$ b.) $\frac{2}{25}$ c.) $\frac{4}{19}$ d.) $\frac{2}{45}$	10.) A cage at the animal shelter holds 4 brown cats and 6 black cats. What is the probability that the first two cats out are both brown? a.) $\frac{3}{25}$ b.) $\frac{1}{6}$ c.) $\frac{1}{3}$ d.) $\frac{2}{15}$

Multiple Choice: Select the correct answer to the following questions.	
11.) A dice is rolled twice. What is the probability that the dice will land on an even number two times in a row? a.) 5% b.) 25% c.) 2.5% d.) 50%	12.) Three coins are going to be flipped. What is the probability that the first flip will give tails, the second one will be tails, and the third one will be heads? a.) 50% b.) 17% c.) 12.5% d.) 25%

The Fundamental Counting Principle: Select the correct number of outcomes from the given questions.	
13.) Find the total number of outcomes from rolling a six-sided number cube and choosing a letter from the world "MATH". a.) 10 b.) 12 c.) 24 d.) 36	14.) Find the total number of outcomes when flipping a coin, rolling a six-sided dice, and choosing a card form a deck of cards. (Hint: There are 52 cards in a deck.) a.) 60 b.) 224 c.) 320 d.) 624

Permutation: Select the correct number of outcomes from the given questions.	
15.) There are 3 members of the debate team. How many ways can they line up to receive their trophy? a.) 6 b.) 9 c.) 27 d.) 36	16.) In a race with 5 runners, in how many ways can the runners end up in first, second, and third place? a.) 15 b.) 30 c.) 60 d.) 120

Sampling: Select the correct answer given the question.	
17.) A student at Cesar Middle School wants to determine what the most popular elective is for 7th grade students. How should this student survey and collect the sample? a.) They should ask 50 students who are in Art. b.) They should ask 50 students who go to the same school. c.) They should ask 50 7th grade students. d.) They should ask 50 students who play in the band.	18.) A local school is trying to determine which sport is the most popular between football, basketball, and soccer. Which of the following samples would be a fair representation of people to ask? a.) 50 football players and 50 soccer players b.) 50 students who do not watch sports c.) Every 10th student that leaves the cafeteria d.) 50 students who do not participate in sports

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Statistics & Probability Assessment (2)

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<td colspan="2"><u>Probability:</u> Select the correct probability for the given questions.</td>
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1.) When rolling a six-sided dice, what is the probability of getting 5?

a.) $\frac{1}{4}$

b.) $\frac{1}{2}$

c.) $\frac{1}{5}$

d.) $\frac{1}{6}$

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2.) When rolling a six-sided dice, what is the probability of getting a number greater than 4?

a.) $\frac{1}{2}$

b.) $\frac{4}{6}$

c.) $\frac{2}{3}$

d.) $\frac{1}{3}$

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3.) The letters "KELLY" are in a bag. What is the probability of pulling out a letter that is a consonant?

a.) $\frac{1}{5}$

b.) $\frac{3}{5}$

c.) $\frac{4}{5}$

d.) $\frac{2}{5}$

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4.) A bag contains 5 red marbles, 3 blue marbles, and 2 yellow marbles. What is the probability of selecting a red marble?

a.) $\frac{1}{5}$

b.) $\frac{1}{10}$

$\frac{1}{5}$

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<td colspan="2"><u>Probability:</u> Select the correct probability for the given questions.</td>
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5.) When rolling a six-sided dice, what is the probability of getting the number 3 two times in a row?

a.) $\frac{1}{18}$

b.) $\frac{1}{6}$

c.) $\frac{1}{36}$

d.) $\frac{5}{36}$

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6.) When flipping a coin and rolling a dice, what is the probability of flipping tails and rolling a 6?

a.) $\frac{5}{12}$

b.) $\frac{5}{6}$

c.) $\frac{1}{6}$

d.) $\frac{1}{12}$

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7.) A bag contains blue marbles, 3 yellow marbles, 2 purple marbles and green marbles. A marble is selected and then replaced. A second marble is chosen. What are the odds of selecting a purple marble then a green marble?

a.) 2

b.) $\frac{3}{5}$

c.) $\frac{4}{10}$

d.) $\frac{4}{5}$

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8.) A baseball player makes a hit 2 out of every 4 at bat. What is the probability that they get two hits in a row?

a.) $\frac{1}{16}$

b.) $\frac{1}{2}$

c.) $\frac{1}{4}$

d.) $\frac{1}{8}$

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Name: _____ Date: _____ Period: _____

Probability: Select the correct probability for the given questions.	
9.) A bag contains 1 blue marbles, 3 yellow marbles, 2 purple marbles, and 4 green marbles. A marble is selected and is <u>not</u> replaced. A second marble is chosen. What are the odds of selecting a purple marble then a green marble? a.) $\frac{4}{100}$ b.) $\frac{4}{45}$ c.) $\frac{4}{19}$ d.) $\frac{2}{45}$	10.) A cage at the animal shelter holds 4 brown cats and 6 black cats. What is the probability that the first two cats out are both black? a.) $\frac{3}{25}$ b.) $\frac{1}{6}$ c.) $\frac{1}{3}$ d.) $\frac{2}{15}$

Multiple Choice: Select the correct answer to the following questions.	
11.) A dice is rolled twice. What is the probability that the dice will land on an even number two times in a row? a.) 5% b.) 25% c.) 2.5% d.) 50%	12.) Three coins are going to be flipped. What is the probability that the first flip will give tails, the second one will be tails, and the third one will be heads? a.) 50% b.) 17% c.) 12.5% d.) 25%

The Fundamental Counting Principle: Select the correct number of outcomes from the given questions.	
13.) Find the total number of outcomes from rolling a six-sided number cube and choosing a letter from the world "MATHEMATICS". a.) 17 b.) 34 c.) 66 d.) 122	14.) Find the number of outcomes when flipping a coin, flipping another coin, and choosing a card form a deck of cards. (Hint: There are 52 cards in a deck.) a.) 60 b.) 208 c.) 320 d.) 624

Permutation: Select the correct number of outcomes from the given questions.	
15.) There are 4 members of the debate team. How many ways can they line up to receive their trophy? a.) 8 b.) 12 c.) 24 d.) 36	16.) In a race with 6 runners, in how many ways can the runners end up in first, second, and third place? a.) 30 b.) 120 c.) 180 d.) 360

Sampling: Select the correct answer given the question.	
17.) A student at Crystal Middle School wants to determine what the most popular elective is for 7th grade students. How should this student survey and collect the sample? a.) They should ask 50 students who are in Art. b.) They should ask 50 7th grade students who go to the same school. c.) They should ask 50 students who play in the band. d.) They should ask 50 7th grade students.	18.) A local school is trying to determine which sport is the most popular between football, basketball, and soccer. Which of the following samples would be a fair representation of people to ask? a.) 50 football players and 50 soccer players b.) 50 students who do not watch sports c.) 50 students who do not participate in sports d.) Every 10th student that leaves the cafeteria

Name: _____ Date: _____ Period: _____

Performance Task: Based upon the following data, answer the following questions.

Mrs. Kelly gave her Math classes a quiz. The quiz was out of 20 points. Below are the scores for the quiz.

12, 6, 18, 20, 15, 14, 8, 17, 16, 15, 20, 9

Find the mean:	Find the median:
Find the mode:	Find the range:

Frequency Table & Graphs: Create a frequency table and two graphs based upon the data.

Create a frequency table of the data using intervals of 5.

Graph #1:	Graph #2:

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Probability Assessment (3)

Matching: Match the term with the correct definition.

1.) Probability	a.) Two or more simple events.
2.) Outcome	b.) The likelihood that an event will occur.
3.) Simple Event	c.) One event or outcome.
4.) Compound Event	d.) The result of an event.

Matching: Match the term with the correct definition.

5.) Independent Event	a.) Based on the probability of what should happen when conducting a probability experiment.
6.) Dependent Event	b.) When one event does not affect the outcome of the other event.
7.) Theoretical Probability	c.) When the outcome of one event affects the outcome of another.
8.) Experimental Probability	d.) Based on relative frequency and what actually occurs during a probability experiment.

Matching: The spinner is spun once. Using the given choices below, find the probability of each event.

9.) P (1)	a.) $\frac{3}{8}$	
10.) P (2 or 3)		
11.) P (even number)	c.) $\frac{1}{2}$	
12.) P (2 or greater)	d.) $\frac{1}{4}$	
	e.) $\frac{1}{8}$	
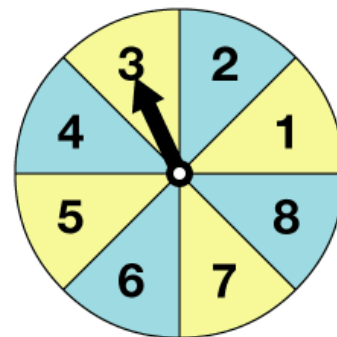
Matching: A coin is flipped once and dice is rolled once. Find the probability of each event.

13.) P (heads, then a 1)	a.) $\frac{1}{12}$
14.) P (tails, and not a 4)	b.) $\frac{1}{6}$
	c.) $\frac{5}{12}$

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Multiple Choice: Select the correct answer to the following questions.	
15. There are 20 students in Mrs. Kelly's class. If Mrs. Kelly randomly picks a student to call on, what is the probability that Mrs. Kelly will call on the same student twice? a.) 5% b.) .25% c.) 2.5% d.) .5%	16. Three coins are going to be flipped. What is the probability that the first flip will give tails, the second one will be tails, and the third one will be heads? a.) 50% b.) 17% c.) 12.5% d.) 25%
17. A bag contains 1 blue marbles, 3 yellow marbles, 2 purple marbles, and 4 green marbles. A marble is selected and then replaced. A second marble is chosen. What are the odds of selecting a blue marble then a green marble? a.) $\frac{1}{25}$ b.) $\frac{1}{20}$ c.) $\frac{4}{10}$ d.) $\frac{2}{5}$	18. A bag contains 1 blue marbles, 3 yellow marbles, 2 purple marbles, and 4 green marbles. A marble is selected and is <u>not</u> replaced. A second marble is chosen. What are the odds of selecting a blue marble then a green marble? a.) $\frac{4}{100}$ b.) $\frac{2}{25}$ c.) $\frac{4}{}$ d.) $\frac{}{45}$

Open Response: Answer the following questions in the space below. Put your answer into **fraction** form.

The following letters are put into a bag:

S   C   H   O   O   L

19. Find the probability if the letters have been put back into the bag.

    a.) P (S, then L)

    b.) P (O, not

20. Find the probability if the letters have <u>not</u> been put back into the bag.

    a.) P (S, then L)

    b.) P (O, then O)

Statistics and Probability Assessment (4)

Matching: Match the following words to the corresponding definitions.	
1.) Sample	a.) A sample that is selected so that it is represents an entire group of people or population.
2.) Unbiased Sampling	b.) A part of the population being studied.
3.) Population	c.) The study of data: how to collect, summarize, and present it.
4.) Biased Sampling	d.) The entire group of items or individuals being studied and/or surveyed.
5.) Statistics	e.) A sample that is selected in such a way that it represents one or more parts that are favored over others.

Matching: Match the following words to the corresponding definitions.	
6.) Simple Random Sampling	a.) A type of sampling where a subset of a population, n, that has equal chance of being selected or surveyed.
7.) Cluster Sampling	b.) A type of sampling where every kth member (such as every 5th person) is selected from the population.
8.) Stratified Sampling	c.) A type of sampling where the selection of individuals are easy to reach.
9.) Convenience Sampling	d.) A type of sampling where the population is divided into subgroups and randomly sampled.
10.) Systematic Sampling	e.) A type of sampling where the population is divided into two or more groups called strata.

Matching: Match the following words to the corresponding definitions.	
11.) Data Set	a.) The number which appears most often in a set of numbers.
12.) Mode	b.) A collection of facts, such as values or measurements.
13.) Range	c.) The average of the numbers.
14.) Median	d.) The middle number in a sorted list of numbers.
15.) Mean	e.) The difference between the lowest and highest number in a data set.

True/False: Answer the following questions. (A = True, B = False)

To discover the most popular elective on campus, John decided to survey the seventh grade students in Band.

16. The sample is all students on campus.

17. The population is the seventh grade students in Band.

18. This is an example of an unbiased sample.

True/False: Answer the following questions. (A = True, B = False)

To track migration patterns of a particular species of bird, scientists randomly tag, release, and track 50 birds of that

species.

19. The sample is the 50 species of birds.

20. The population is the entire species of birds.

21. This is an example of a unbiased sample.

Matching: Identify which data set matches the following questions.

Data Set #1: 5, 8, 10, 13, 6, 10

Data Set #2: 6, 4, 8, 14, 8, 12, 8

22. The mode is 8.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets

23. The range is 8.

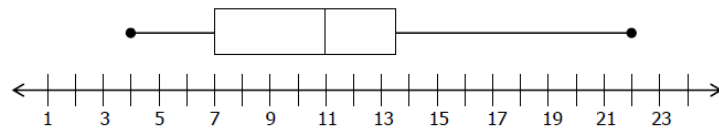   a.) Data Set #1   b.) Data Set #2   c.) Both Sets

24. The mean is about 8.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets

25. The median is 7.

a.) Data Set #1   b.) Data Set #2   c.) Both Sets

Matching: Identify the number that corresponds to the given term.

26. Lower Quartile	a.) 4
27. Upper Quartile	b.) 7
28. Median	c.) 11
29. Minimum	d.) 13.5
30. Maximum	e.) 22

Open Response: Use the data below to find the mean, median, mode, and range.

John did a survey on how many times students in Mrs. Kelly's math class eat at a fast-food restaurant in one month.

He polled 10 students and received the following numbers:

10, 2, 0, 20, 15, 12, 8

Mean	Median
Mode	Range

Open Response: Construct graphs and tables based upon the data from the previous problem.

Frequency Table	Histogram

Circle Graph	Stem & Leaf Plot

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Statistics & Probability Assessment (5)

Matching: Match the following words to the corresponding definitions.	
1.) Probability	a.) Two or more simple events.
2.) Outcome	b.) The likelihood that an event will occur.
3.) Simple Event	c.) One event or a combination of events.
4.) Compound Event	d.) The result of an event.

| **Matching:** Match the following words to the corresponding definitions.	
5.) Independent Event	a.) Based on the probability of what should happen when conducting a probability experiment.
6.) Dependent Event	b.) When one event does not affect the outcome of the other event.
7.) Theoretical Probability	c.) When the outcome of one event affects the outcome of another event.
8.) Experimental Probability	d.) Based on relative frequency and what actually occurs during a probability experiment.

Matching: The spinner shown is spun once. Using the given answer choices below, find the probability of each event.

9.) P(1)

10.) P(2 or 3)

11.) P(even number)

12.) P(2 or greater)
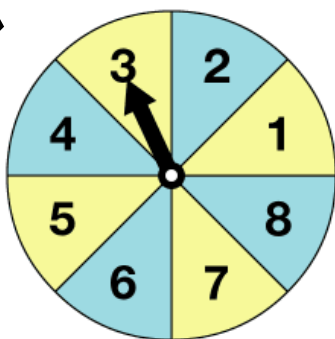
a.) $\frac{3}{8}$

b.) $\frac{1}{2}$

c.) $\frac{7}{8}$

d.) $\frac{1}{4}$

e.) $\frac{1}{8}$

Note: Not all answer choices will be used.

Name: _____ Date: _____ Period: _____

Matching: A coin is flipped once and dice is rolled once. Find the probability of each event.

13.) P(heads and a 1)	14.) P(head and not a 4)
15.) P(tails and a multiple of 3)	16.) P(tails and an even number)

Answer Choices:

a.) $\frac{1}{12}$ b.) $\frac{1}{2}$ c.) $\frac{5}{12}$ d.) $\frac{1}{4}$ $\frac{1}{6}$

Note: Not all answer choices will be used.

True/False: On the following statements, state whether the events independent or dependent.

17. A student picks a raffle ticket from a box, replaces the ticket, then picks a second raffle ticket.

   a.) Independent Event   b.) Dependent Event

18. A boy chooses a sock from a drawer of socks, then chooses a second sock without replacing the first.

   a.) Independent Event   b.) Dependent Event

19. A girl rolls a dice and gets a 2, then flips a coin and lands on heads.

   a.) Independent Event   b.) Dependent Event

20. A teacher pulls an ice cream bar out of a box, gives it to a student, and pulls a second ice cream bar out of a

   box and gives it to another student.

   a.) Independent Event   b.) Dependent Event

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Matching: Find the correct answers given the question and answer choices.

The following letters are put into a bag. Find the probability of each event if the letters are not replaced.

S   C   H   O   O   L

21.) P(first C, second S)	22.) P(first O, L)
23.) P(not O, second O)	24.) P(first L, second O, third S)

Answer Choices:

a.) $\frac{1}{60}$ b.) $\frac{1}{15}$ c.) $\frac{1}{30}$ d.) $\frac{1}{36}$ e.) $\frac{4}{15}$

Note: Not all answer choices will be used.

Open Response: Answer the following questions. Put your answer on the front of your scantron. There will be one problem on simple events, one on compound independent events, and one on dependent events.

25. When Maddi spins the spinner below, what is the probability that she lands on 4 or 8?

26. A bag of marbles contains 5 pink, green, and 2 white marbles. What is the probability that Kaylan picks a pink marble, gives it to Jen, then picks a green marble?

27. On a quiz there are 3 multiple-choice questions. Each question has 4 different answer choices (a, b, c, or d). If Chris randomly guesses on all 3 questions, what is the probability that he gets all three correct?

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Mean, Median, Mode, Range, & Box-Whisker Plots

Multiple Choice: Identify which data set matches the following questions.

Data Set #1:	**7, 8, 2, 6, 2**
Data Set #2:	**7, 6, 4, 4, 4, 5**

1. The mean is 5.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets   d.) Neither Set

2. The median is 4.5.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets   Neither Set

3. The mode is 2.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets   d.) Neither Set

4. The range is 6.

   a.) Data Set #1   b.) Data Set #2   oth Sets   d.) Neither Set

Multiple Chioice: Identify which data set matches the following questions.

Data Set	**4, 9, 6, 8, 3, 2, 8, 5**
Data Set:	**2, 4, 4, 8, 7, 5**

5. The mean is 6.

   a.) Data Set #1   Data Set   c.) Both Sets   d.) Neither Set

6. The median is 6.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets   d.) Neither Set
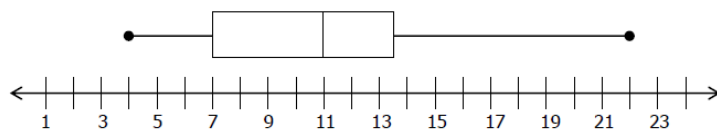
7. The mode

   Set #1   b.) Data Set #2   c.) Both Sets   d.) Neither Set

   e range is 6.

   a.) Data Set #1   b.) Data Set #2   c.) Both Sets   d.) Neither Set

Name: _____ Date: _____ Period: _____

Matching: Identify the number that corresponds to the given term.

9. Lower Quartile	a.) 4
10. Upper Quartile	b.) 7
11. Median	c.) 11
12. Minimum	d.)
13. Maximum	e.) 22