

Core Skills #1: Sampling Methods and their influence.

Sampling method: convenience, voluntary response, tv/online survey, random

Influences: Bias, use of language, ethics, cost, time, timing, privacy, cultural sensitivity

(MC – circle the right answer)

- Which type of sampling method would be limited to individuals present at the location of the survey?
a. convenience b. online questionnaire c. voluntary response d. random
- Which type of sampling method is considered free of bias?
a. convenience b. online questionnaire c. voluntary response d. random
- The school president was asked to conduct a survey of the students to determine if the school should have another dance. Which of the following best represents a random sample?
a. She asks 30 of her friends. b. She surveys 30 grade 9 students.
c. She places 30 questionnaires in the cafeteria.
d. She asks the office for the names of 30 students, 6 from each grade.

(Short answers)

- Name a problem related to this data collection.
Bridget asked her classmates the following question: “Do you agree we spend too much time on homework?”
- Name a problem related to this data collection.
Brandon wanted to collect information on students’ television viewing habits. He decided to mail a questionnaire, along with a self-addressed stamped envelope, to 300 students in his school.
- Anita surveyed her classmates to see if they were interested in a Christmas gift exchange. How might she have problems with cultural sensitivity? Explain

Core Skills #2: Measure of Central Tendency in Statistics

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| <p>7. A list of number is given:
10, 14, 18, 12, 13, 15</p> <p>a) Find the mean the list</p> <p>b) Find the median of the list</p> | <p>8. Find the mode of the following list</p> <p>a) 3, 5, 7, 5, 9, 8, 9, 10, 7, 7, 9</p> <p>b) 2, 3, 2, 5, 5, 3</p> |
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Core 1 Extending

9. Baby Cheung want

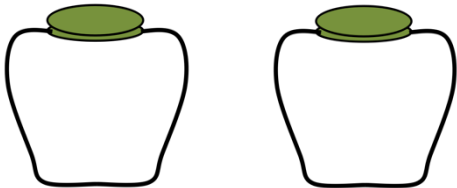
Ans) _____

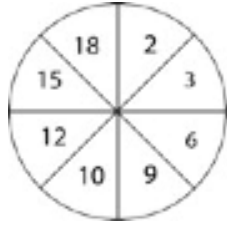
Core 2 Extending

10. The mean of 30 numbers is 12. If the mean of the first 20 number is 15, what is the mean of the last 10 number?

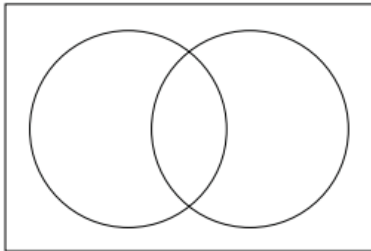
Ans) _____

Core skill #3: Probability

<p>11. State whether the following events are mutually exclusive and explain your reasoning. Drawing a heart or drawing a Jack from a standard deck of 52 playing cards.</p>	<p>12. State whether the following events are Independent and explain your reasoning. Rolling a 5 with one die and landing on a tail after tossing a coin</p>
<p>13. What is the probability that you will spin a number divisible by 3 on this spinner?</p>	<p>14. A game has three possible outcomes A, B and C. If $P(A)=0.6$ and $P(B)=0.1$, what is the probability of event C?</p>
<p>15. A coin is tossed three times.</p> <p>a) List the sample space for the three coins tosses. (ie, HHH, HHT.....)</p> <p>b) what is the probability of getting all 3 Heads</p> <p>c) what is the probability of getting 2 heads and 1 tail?</p>	<p>16. Two 6-sided dice are roiled. Determine the probability of the following.</p> <p>a. The sum of the two dice is 5</p> <p>b. The sum of the two dice is less than or equal to 6</p> <p>c. The sum is greater than 8 or a multiple of 5</p>
<p>17. A jar contains 3 red, 2 yellow and 4 blue marbles. A marble is chosen at random from the jar. Without replacing it, a second marble is chosen. What is the probability of choosing a yellow and then a blue marble?</p> <div style="display: flex; justify-content: space-around; align-items: center;">  </div>	



<p>18. A deck of 52 cards from Ace to King has four suits: Heart and Diamond which are red and Spades and Clubs which are black. Determine the following probability</p> <p>a) selecting a Red 9</p> <p>b) drawing an even red card</p> <p>c) not drawing a heart</p> <p>d) drawing a face card or a 9</p> <p>e) drawing a Spade or a 7</p> <p>f) drawing a 3, then drawing another 3 without replacing the first card</p>	
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<p>19. 90 people in a community participated in a technology survey. It was found that 70 people have a smartphone, 40 people have a tablet. Fill in the Venn Diagram, then what is the probability that a person selected a random has....</p> <p>a. A smartphone only</p> <p>b. both a smartphone and a tablet</p> <p>c. a smartphone or a tablet</p>	<div style="text-align: center;">  </div> <p style="text-align: right;">a) _____</p> <p style="text-align: right;">b) _____</p> <p style="text-align: right;">c) _____</p>
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