Historical data indicates that the average annual rainfall total in Grand Prairie is **30** inches, and there is a **95%** chance that any given year's total will be within **12** inches of this average (i.e., a **95%** chance that the total will be between **18** inches and **42** inches).

Based on this historical data, please answer the following questions:

1. What do you think is the probability that next year's rainfall total will be within **3** inches of the average (i.e., between **27** inches and **33** inches)?

   _______%

2. What do you think is the probability that next year's rainfall total will be within **6** inches of the average (i.e., between **24** inches and **36** inches)?

   _______%

3. What do you think is the probability that next year's rainfall total will be within **9** inches of the average (i.e., between **21** inches and **39** inches)?

   _______%

Historical data indicates that the average annual rainfall total in Townsville is **40** inches, and there is a **75%** chance that any given year's total will be within 7 inches of this average (i.e., a **75%** chance that the total will be between **33** inches and **47** inches).

Based on this historical data, please answer the following questions:

1. What do you think is the probability that next year's rainfall total will be within **3** inches of the average (i.e., between **37** inches and **43** inches)?

   _______%

2. What do you think is the probability that next year's rainfall total will be within **6** inches of the average (i.e., between **34** inches and **46** inches)?

   _______%

3. What do you think is the probability that next year's rainfall total will be within **9** inches of the average (i.e., between **31** inches and **49** inches)?

   _______%

Historical data indicates that the average annual rainfall total in Cedar Hills is **25** inches, and there is a **60%** chance that any given year's total will be within **5** inches of this average (i.e., a **60%** chance that the total will be between **20** inches and **30** inches).

Based on this historical data, please answer the following questions:

1. What do you think is the probability that next year's rainfall total will be within **3** inches of the average (i.e., between **22** inches and **28** inches)?

   _______%

2. What do you think is the probability that next year's rainfall total will be within **6** inches of the average (i.e., between **19** inches and **31** inches)?

   _______%

3. What do you think is the probability that next year's rainfall total will be within **9** inches of the average (i.e., between **16** inches and **34** inches)?

   _______%

Historical data indicates that the average annual rainfall total in Brook Hollow is **35** inches, and there is a **90%** chance that any given year's total will be within **10** inches of this average (i.e., a **90%** chance that the total will be between **25** inches and **45** inches).

Based on this historical data, please answer the following questions:

1. What do you think is the probability that next year's rainfall total will be within **3** inches of the average (i.e., between **32** inches and **38** inches)?

   _______%

2. What do you think is the probability that next year's rainfall total will be within **6** inches of the average (i.e., between **29** inches and **41** inches)?

   _______%

3. What do you think is the probability that next year's rainfall total will be within **9** inches of the average (i.e., between **26** inches and **44** inches)?

   _______%

You will have 10 minutes to complete as many problems as you can.

Please: 1) No calculators, 2) Simplify your answers, and 3) Circle your answers.

1. Imagine that we rolled a fair, six-sided die 1,000 times. Out of 1,000 rolls, how many times do you think the die would come up even?*

2. A bicycle shop is holding a sale during which all helmets will be 25% off. If the regular price of a certain helmet is $28, what will the sale price be?

3. Suzanne's commute to work takes 24 minutes on Monday, 27 minutes on Tuesday, 25 minutes on Wednesday, 19 minutes on Thursday, and 30 minutes on Friday. For the week, what was her average commute time?

4. At a local ice cream parlor, there are 3 different kinds of cones, 4 different flavors of ice cream, and 6 different toppings available. How many different combinations of one cone, one flavor, and one topping are possible?

5. The price of a certain stock decreased by 20% between February 1 and April 30, and then increased by 20% between May 1 and July 31. If the price of the stock was $50 a share on February 1, what was its price on July 3?

6. The probability of getting a viral infection is .0005. Out of 3 million people, about how many of them would you expect to get infected?*

* Adopted from Lipkus, Samsa, & Rimer (2001)

GEOGRAPHY TEST RESULTS

Score	Number of Students
100	2
95	1
90	3
85	4
80	3
75	2
70	3
65	1
60	1

7. The scores on last Wednesday's geography test are shown in the table above. David, who was sick and missed class on Wednesday, will make up the test next week. If David scores a 90 on the test, what will the median test score be?

8. Six people are given cards and each writes a positive integer on his or her card. The average of all six of these numbers is 12. If the average of five of the numbers is 11, what is the sixth number?

9. If a coin is flipped four times, what is the probability that exactly three of the tosses (any three) will come up tails?

10. An outdoors store charges $52 for a certain kind of jacket. This price is 30 percent more than what the store pays for the jacket. At the end of winter, employees of the store may buy any leftover jackets at a discount of 20 percent off what the store paid. With this discount, how much would an employee pay for the jacket?

References

Lipkus, I.M., Samsa, G. & Rimer. B.K. (2001). General performance on a numeracy scale among highly educated samples. *Medical Decision Making, 21,* 37-44.