

## Statistics Work Samples -Practice-

1. Peter has one of each of the following coins in his pocket: a penny, a nickel, a dime, a quarter, and a half-dollar. Four of these coins are taken out of the pocket and the sum of their values is calculated. What is the probability the sum is even? Explain your answer in detail. (H.2S.2 7.SP.8ab)
  
2. Seven people participated in a checkers tournament. Three were male and four were female. Each participant played exactly three games with each of the other participants. What is the probability that a game was played by two girls or two boys? Explain your answer in detail. (H.2S.3 7.SP.8ab)
  
3. A junior takes a five question multiple-choice test with four possible answers to each question. She guesses on each of the questions. What is the probability of her scoring 80% on the test? Explain your thinking in each step and your answer. (H.2S.1; H.2S.3 S.MD.3)
  
4. Sara and Ben are playing a game. They take turns tossing 2 dice. If the difference of the numbers that comes up is 0, 1, or 2, then Sara wins. If any other differences occur then Ben wins. Sara has a greater probability of winning the game. Which difference (0, 1, or 2) should be assigned to Ben so Sara and Ben have an equal opportunity of winning? Justify your answer. Explain your thinking at each step and your answer. (H.2S.1; H.2S.3 7.SP.8a)
  
5. To find the number of laps to run in this week, the coach will roll a six sided number cube (1-6) 100 times. Each even roll will add 3 laps, each 1 or 3 reduces the number of laps by 1, each 5 will decrease the number of laps by 5. In theory, determine the number of laps the team will probably be running this week. (H.2.S3 S.MD.2)
  
6. The probability of hitting a target at a game arcade is  $\frac{7}{9}$ . If a player exactly matches the probability, the player wins \$500.00. Player A has already thrown 20 times and hit 10 times. Show how many consecutive hits must be made now in order for the player to win the prize. (H.2S.1; H.2S.2 7.SP.8a)

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7. 90% of all Oregon drivers wear seatbelts. If 4 drivers were pulled over, what is the probability that at least 3 would be wearing their seat belts? (H.2S.3 7.SP.8b)
  
8. Six marbles are placed in three different boxes. What is the probability that each box contains at least one marble? (H.2S.1; H.2S.2 7.SP.8b)