

**Instructions:** Show all work. Answers without work can only be graded all or nothing. Partial credit is available only when work is shown.

1. If the probability of an event is  $\frac{2}{7}$ , what are the odds for the events?
2. If the probability of an event is  $\frac{8}{11}$ , what are the odds against the event?
3. If the odds of an event are 35: 81, what is the probability of the event?
4. A PTA is holding a charity raffle to raise money for the school. They are selling 550 tickets for \$12 each. They are giving away a first prize of \$1000, a second prize of \$500, two third prizes of \$100, and four fourth prizes of \$25 each. What is the expected value of each ticket purchased?
5. Use the contingency table below to answer the following questions?

	Pizza Rolls	Chips and Dip	Cookies	<b>Totals</b>
Poker	10	3	12	<b>25</b>
Trivial Pursuit	8	14	7	<b>29</b>
Monopoly	14	17	7	<b>38</b>
Wii Bowling	12	7	4	<b>23</b>
<b>Totals</b>	<b>44</b>	<b>41</b>	<b>30</b>	<b>115</b>

- a. What is the probability that a randomly selected person from the sample prefers Trivial Pursuit?
- b. What is the probability that the person prefers Trivial Pursuit given that they prefer cookies?
- c. What is the probability that the person prefers Trivial Pursuit and that they prefer cookies?
- d. What is the probability that the person prefers Trivial Pursuit or cookies?
- e. Is the preference for Trivial Pursuit and cookies independent (based on this data)? Explain.