8-5 Word Problem Practice

Experimental and Theoretical Probability

ENTERTAINMENT For Exercises 1 and 2, use the results of a survey of 120 eighth-grade students shown at the right.

Video Game Playing Time Per Week	
Hours	Number of Participants
0	18
1–3	43
3–6	35
more than 6	24

1. Explain how to find the probability that a student plays video games more than 6 hours per week. Then find the probability.

2. Out of 400 students, how many would you expect to play video games more than 6 hours per week?

3. DINING Only 6 out of 100 Americans say they leave a tip of more than 20% for satisfactory service in a restaurant. Out of 1,500 restaurant customers, how many would you expect to leave a tip of more than 20%?

4. PLANTS Jason has a packet of tomato seeds left over from last year. He plants 36 of the seeds and only 8 sprout. What is the experimental probability that a tomato seed from this packet will sprout?

SPORTS For Exercises 5 and 6, use the results in the table at the right. In a survey, 102 people were asked to pick their favorite spectator sport.

Favorite Spectator Sport	
Sport	Number
professional football	42
professional baseball	27
professional basketball	21
college football	12

5. What is the probability that a person's favorite spectator sport is professional baseball? Is this an *experimental* or a *theoretical* probability? Explain.

6. Out of 10,000 people, how many would you expect to say that professional baseball is their favorite spectator sport? Round to the nearest person.