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Lesson 1.5 Comparing Experimental and Theoretical Probabilities

Compare the theoretical probability to the experimental probability. Express each probability as a fraction in simplest form.

7. Allison rolls a die numbered 1 through 6. The results are shown in the table below.

Result	Frequency
1	4
2	9
3	7
4	8
5	5
6	3

a. What is the experimental probability of rolling a 6? $\frac{1}{12}$

b. What is the theoretical probability of rolling a 6? $\frac{1}{6}$

c. Which probability is greater?

theoretical

How much greater? $\frac{1}{12}$

d. What is the experimental probability of rolling an even number? $\frac{5}{9}$

e. What is the theoretical probability of rolling an even number? $\frac{1}{2}$

f. Which probability is greater? experimental How much greater? $\frac{1}{18}$

8. Allison continues to roll the die. The results are shown in the table below.

Result	Frequency
1	23
2	22
3	22
4	25
5	28
6	24

a. What is the experimental probability of rolling a 6? $\frac{1}{6}$

b. What is the theoretical probability of rolling a 6? $\frac{1}{6}$

c. Which probability is greater? same

How much greater? 0

d. What is the experimental probability of rolling an even number? $\frac{71}{144}$

e. What is the theoretical probability of rolling an even number? $\frac{1}{2}$

f. Which probability is greater? theoretical How much greater? $\frac{1}{144}$