



Probability from experimental data

GRADE 7 MATH

Name _____

Date _____

Answer every item. Give relative frequencies as fractions and compare them with the theory. One skill: **experimental probability**.

WORKED EXAMPLE

Relative frequency = hits $\div$ trials. A spinner with 3 red sectors out of 10 has theoretical probability $\frac{3}{10}$. Spun 20 times you might get 8 reds, a relative frequency of $\frac{4}{10}$ — **close but not equal**, and that is normal. Spin 500 times and the relative frequency will usually be much nearer $\frac{3}{10}$. More trials means a better **estimate**, not an exact match.

1. A spinner is spun 20 times and lands on red 8 times. Find the relative frequency, and how far it is from the theoretical $\frac{3}{10}$.

APPLICATION

Show your thinking

Answer

2. The same spinner is spun 100 times and lands on red 34 times. Find the relative frequency and its distance from $\frac{3}{10}$.

APPLICATION

Show your thinking

Answer

3. 500 spins give 158 reds. Find the relative frequency and its distance from $\frac{3}{10}$. What is the pattern across the three?

REASONING

Show your thinking

Answer

4. Predict roughly how many reds you would expect in 200 spins. Would you be surprised to get exactly that number? Explain.

REASONING

Show your thinking

Answer