



Probability models

GRADE 7 MATH

Name _____

Date _____

Do this on your own — the worked example shows what to do. Count the ways out of 36. One skill: **probability models**.

WORKED EXAMPLE

Build the model from the equally likely outcomes — for two dice, the 36 pairs. Count the ways for each total and divide by 36. Compare models with data by the **SIZE** of the discrepancy, not by whether one exists.

1. How many ways can two dice total 5?

FLUENCY

Show your thinking

Answer

2. How many ways can two dice total 9?

FLUENCY

Show your thinking

Answer

3. Are totals 5 and 9 equally likely? Explain.

REASONING

Show your thinking

Answer

4. Find $P(\text{total } 5)$.

APPLICATION

Show your thinking

Answer

5. How many 5s would you expect in 90 rolls?

APPLICATION

Show your thinking

Answer

6. How many 7s would you expect in 90 rolls?

APPLICATION

Show your thinking

Answer

7. In 90 actual rolls a class records 12 fives and 17 sevens. Does this contradict the model? Explain.

REASONING

Show your thinking

Answer

8. A spinner has four sectors labelled A, B, C, D, but the A sector is much larger than the others. Explain why a model giving each letter $\frac{1}{4}$ would be wrong, and how you could build a better one.

REASONING

Show your thinking

Answer