



Probabilities of compound events

GRADE 7 MATH

Name _____

Date _____

Do this on your own — the worked example shows what to do. Both fractions before multiplying. Bag: 3 red, 2 blue. One skill: **compound events**.

WORKED EXAMPLE

Multiply the probabilities. With replacement, nothing changes between draws. Without replacement, BOTH the numerator and the denominator drop, because a marble has left the bag.

1. Two dice are rolled. Find $P(\text{both show } 6)$.

FLUENCY

Show your thinking

Answer

2. Find $P(\text{neither shows a } 6)$.

APPLICATION

Show your thinking

Answer

3. A spinner has probability $\frac{1}{4}$ of landing on green. It is spun twice. Find $P(\text{green both times})$.

APPLICATION

Show your thinking

Answer

4. Three marbles are drawn from the bag WITH replacement. Find $P(\text{all three red})$.

APPLICATION

Show your thinking

Answer

5. Three are drawn WITHOUT replacement. Find $P(\text{all three red})$.

REASONING

Show your thinking

Answer

6. Compare questions 4 and 5. Which is smaller, and by roughly how much?

REASONING

Show your thinking

Answer

7. Without replacement, what is $P(\text{all FOUR drawn marbles are red})$? Explain without calculating.

REASONING

Show your thinking

Answer

8. Explain in your own words the one question you must ask before multiplying two probabilities.

REASONING

Show your thinking

Answer