



Probability as a number from 0 to 1

GRADE 7 MATH

Name _____

Date _____

Work in order. Probabilities as fractions in lowest terms. Use the same bag: 3 red, 5 blue, 2 green. One skill: **the probability scale**.

WORKED EXAMPLE

$P(\text{event}) = \text{favourable outcomes} \div \text{total outcomes}$, giving a number from 0 to 1. 0 is impossible, 1 is certain, $\frac{1}{2}$ is even. All the probabilities of one situation add to exactly 1. Two possible outcomes does **not** mean even chances.

1. Find $P(\text{green})$.

FLUENCY

Show your thinking

Answer

2. Find $P(\text{not green})$.

FLUENCY

Show your thinking

Answer

3. Add your two answers. What do you get, and why must it be that?

REASONING

Show your thinking

Answer

4. Find $P(\text{red or green})$.

APPLICATION

Show your thinking

Answer

5. Compare your answer to question 4 with $P(\text{blue})$. What do you notice, and why?

REASONING

Show your thinking

Answer

6. Which is less likely, red or green? Justify using the probabilities.

APPLICATION

Show your thinking

Answer

7. Give an event with this bag that has probability 0, and one with probability 1.

APPLICATION

Show your thinking

Answer

8. A student says “a marble is either red or it isn't, so $P(\text{red}) = \frac{1}{2}$.” Explain what is wrong.

REASONING

Show your thinking

Answer

9. Give a real-life example with exactly two outcomes that are clearly NOT equally likely, and explain.

REASONING

Show your thinking

Answer