

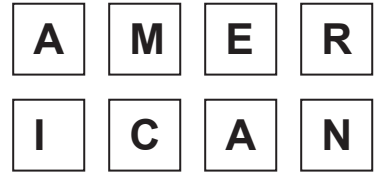
LESSON
12-1

Probability

Reteach

Picturing a thermometer can help you rate probability.

At right are 8 letter tiles that spell AMERICAN.



If something will always happen, its probability is **certain**.
If you draw a tile, the letter will be in the word "American."

$$P(A, M, E, R, I, C, \text{ or } N) = 1$$

If something will never happen, its probability is **impossible**.
If you draw a tile, you cannot draw a "Q."

$$P(Q) = 0$$

The probability of picking a vowel is **as likely as not** because there are 4 vowels and 4 consonants.

$$P(\text{a vowel}) = \frac{4 \text{ vowels}}{8 \text{ letters}} = \frac{1}{2}$$

Picking the letter "C" is **unlikely** because there is only one "C."

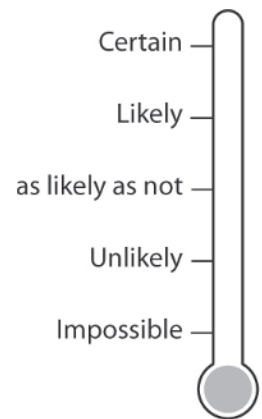
$$P(C) = \frac{1 \text{ "c" }}{8 \text{ letters}} = \frac{1}{8}$$

Picking a letter besides "A" is **likely** because there are 6 letters that are not "A".

$$P(\text{not A}) = \frac{6 \text{ letters}}{8 \text{ letters}} = \frac{3}{4}$$

Another way to find $P(\text{not A})$ is to subtract $P(A)$ from 1.

$$P(\text{not A}) = 1 - P(A) = 1 - \frac{1}{4} = \frac{3}{4}$$



Tell whether each outcome is *impossible, unlikely, as likely as not, likely, or certain*. Then write the probability in simplest form.

1. choosing a red crayon from a box of 24 different colored crayons, including red crayons

2. rolling an odd number on a number cube containing numbers 1 through 6

3. randomly picking a white card from a bag containing all red cards
