

**Learning Outcomes Covered:**

**9A:** I can understand the role of probability in society.

**CURRICULAR COMPETENCIES Questions:**

1. Indicate whether each decision is based on theoretical probability, experimental probability, or subjective judgment. Explain how you know. (CmRp)

- a) The last 10 times Jerome tried to access a certain Internet website, he got an error message saying that the site was unavailable. So, he decides the site no longer works and does not try to access it again.

Experimental Judgement

- b) When Karen's mother learns she is pregnant, she celebrates by buying a pink baby blanket because she has a feeling the baby will be a girl.

Subjective Judgement

- c) Aaron chooses a long email password because it is more difficult to determine a long password than a short one.

Theoretical Probability

2. An advertisement for a desktop computer claims it is 80% smaller than other computers. (CnRf)

- a) Why do you think the advertisers decided to include this statistic in the ad?

People like smaller desktops because it does not take up space.

- b) How could someone use this statistic to justify not buying the computer?

It is a judgement call, there is no proof shown.

3. Angela visits a website to read reviews about a new MP3 player. There were three reviews: two people thought it was great, and one person thought it was terrible. So, Angela concludes that there is about a 66% chance that she will be happy with the MP3 player. (CnRf)

a) What assumptions did Angela make?

- ① All three people are tech savvy.
- ② All other customers will have similar experiences.

b) If each assumption changes, how might the predicted outcome change?

- ① The user experiences might not be as accurate.
- ② Users might not have similar experiences.

4. An ad for a sugar-free hard candy claims it has 50% fewer calories than the leading brand. (CnRf)

a) Explain how a person's decision about whether to try this candy could be based on probability and subjective judgment.

Maybe you don't think 50% fewer calories than leading brand is not low enough

b) If the person does decide to try the candy, what assumptions might he be making? For each assumption, explain how the predicted outcome might change if the assumption changes.

Assumption: 50% less than leading brand is a lot, it's "healthier".

If it's not lowered by a lot and healthier, then I might not try it at all.

**ONGOING LEARNING ACTIVITIES:**

CORE: Page 435: Curricular Competencies: 3, 4, 5, 6, 7, 9, 11

ADVANCED: Page 437: 14, 17