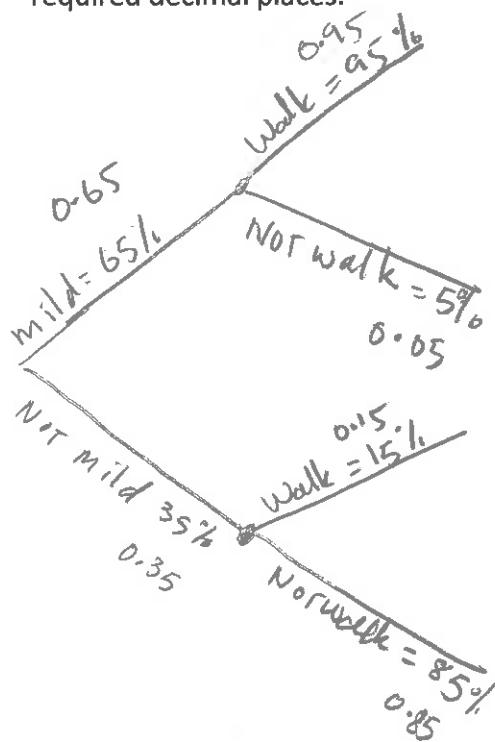


Example 4

The likelihood of Jean going for a walk depends on the weather. If it is a mild day, the probability that she will go for a walk is 95%. If the weather is not mild, the probability that she will go for a walk is 15%. The probability of mild weather tomorrow is 65%.

- a) Construct a graphic organizer to show all the possible outcomes and their related probabilities. Avoid rounding probabilities on tree diagrams – if needed, round to twice the number of required decimal places.



probability (mild)

$$\text{mild/walk} : 0.65 \times 0.95 = 0.6175$$

$$\text{walk} = 0.6175$$

$$\text{mild/not walk} : 0.65 \times 0.05 = 0.0325$$

$$\text{not mild/walk} : 0.35 \times 0.15 = 0.0525$$

$$\text{walk} : 0.0525$$

$$\text{not mild/not walk} : 0.35 \times 0.85 = 0.2975$$

NOTE: $0.6175 + 0.0325 + 0.0525 + 0.2975 = 1$

- b) Determine the probability that Jean will go for a walk tomorrow.

$$P(\text{walk}) = P(\text{mild/walk}) + P(\text{not mild/walk})$$

$$= 0.6175 + 0.0525$$

$$= 0.67$$