Example of **Independent events**
- Flipping a coin multiple times
- Rolling dice
- Selecting two cards from a deck with replacement

**Dependent events**
- Selecting two cards from a deck without replacement

\[ P(\text{red card}) = \frac{26}{52} \times \frac{25}{51} \quad \text{(without replacement)} \]

**Independent example**
- Roll a die and flip a coin

\[ P(\text{red}) = \frac{26}{52} \times \frac{1}{25} \quad \text{(without replacement)} \]

A) \[ P(\text{male}) = \frac{286}{759} \]

B) \[ P(\text{male} | \text{urban}) = \frac{92}{265} \]

Hence, NO
b) \[ P(C) = \frac{471}{759} \]
\[ P(S) = \frac{494}{759} \]
\[ P(\text{F15}) = \frac{298}{494} \]

No, fraction doesn't match.

\[ P(\text{drug-free}) = P(\text{drug-free fail both tests}) \]
\[ (1 - 0.28)(1 - 0.28) = P(\text{drug-free fail both tests}) \]
\[ = 0.52 \times 0.52 = 0.2704 \]
\[ P(\text{drug-free person found to be drug-free}) = 1 - 0.0004 = 0.9996 \]

a. \[ \frac{19}{42} \times \frac{18}{41} \]

No, because without replacement.

b. \[ \frac{22}{42} \times \frac{21}{41} \times \frac{20}{40} \]