

The diagram illustrates the formula for a z-score. It features three main components with arrows pointing to the formula:

- Observed Score** (blue text): Points to the variable  $X$  in the numerator.
- Population Mean** (teal text): Points to the variable  $\mu$  in the numerator. Below this text is the value  $\mu = 100$ .
- Population Standard Deviation** (green text): Points to the variable  $\sigma$  in the denominator. Below this text is the value  $\sigma = 15$ .

The **z-score** (purple text) is indicated by a purple arrow pointing to the variable  $z$  on the left side of the equation.

$$z = \frac{X - \mu}{\sigma}$$