



$$\begin{array}{r} 44 \text{ } 4^{\text{th}} \text{ } 39 \\ \hline 2 \text{ } 59 \text{ } 12 \\ \hline \end{array}$$

Small stuff

$P_1 = \frac{1}{14}$   $P_2 = \frac{1}{14}$

Formal distribution table

State	Probability
1	$\frac{1}{14}$
2	$\frac{1}{14}$
3	$\frac{1}{14}$
4	$\frac{1}{14}$
5	$\frac{1}{14}$
6	$\frac{1}{14}$
7	$\frac{1}{14}$
8	$\frac{1}{14}$
9	$\frac{1}{14}$
10	$\frac{1}{14}$

Step 1:  $E(X) = 1 \cdot \frac{1}{14} + 2 \cdot \frac{1}{14} + 3 \cdot \frac{1}{14} + 4 \cdot \frac{1}{14} + 5 \cdot \frac{1}{14} + 6 \cdot \frac{1}{14} + 7 \cdot \frac{1}{14} + 8 \cdot \frac{1}{14} + 9 \cdot \frac{1}{14} + 10 \cdot \frac{1}{14}$

Step 2:  $E(X) = \frac{1+2+3+4+5+6+7+8+9+10}{14} = \frac{55}{14} \approx 3.93$

Step 3:  $E(X^2) = 1^2 \cdot \frac{1}{14} + 2^2 \cdot \frac{1}{14} + 3^2 \cdot \frac{1}{14} + 4^2 \cdot \frac{1}{14} + 5^2 \cdot \frac{1}{14} + 6^2 \cdot \frac{1}{14} + 7^2 \cdot \frac{1}{14} + 8^2 \cdot \frac{1}{14} + 9^2 \cdot \frac{1}{14} + 10^2 \cdot \frac{1}{14}$

Step 4:  $E(X^2) = \frac{1+4+9+16+25+36+49+64+81+100}{14} = \frac{375}{14} \approx 26.79$

Step 5:  $Var(X) = E(X^2) - [E(X)]^2 = 26.79 - (3.93)^2 \approx 26.79 - 15.44 = 11.35$

Step 6:  $SD(X) = \sqrt{11.35} \approx 3.37$

