Review Exercises (page 279)

2. No, the sum of the probabilities is less than one.

8.

$$\begin{aligned}
\mu &= \sum X\ P(X) \\
&= 0(0.12) + 1(0.20) + 2(0.31) + 3(0.25) + 4(0.12) \\
&= 2.05
\end{aligned}$$

$$\begin{aligned}
\sigma^2 &= \sum X^2\ P(X) - \mu^2 \\
&= [0^2(0.12) + 1^2(0.20) + 2^2(0.31) + 3^2(0.25) + 4^2(0.12)] - (2.05)^2 \\
&= 1.41
\end{aligned}$$

14. $n = 10$, $p = 0.3$, $X = 5$, $\quad P(X) = 0.103$