

II
2 B

$$\begin{aligned} \textcircled{3}. A \Rightarrow \mu &= \sum x \cdot P(x) = (-3)(.52) + (4)(.15) + (10)(.33) \\ &= (-1.56) + (.6) + (3.3) \\ &= \boxed{2.34} \end{aligned}$$

$$\begin{aligned} \textcircled{4}. A \text{ or } B &\Rightarrow 1 - [.4437 + .3915 + .1382] = 1 - [.9734] = \boxed{.0266} \\ \text{OR} &= [.0244 + .0022 + .0001] = \boxed{.0267} \end{aligned}$$

5 C

$$\textcircled{6}. A \Rightarrow \mu = n \cdot p = (7)(.30) = \boxed{2.1}$$

$$\begin{aligned} \textcircled{7}. \boxed{.3110} \quad \textcircled{8}. P(X \geq 5) &= 1 - [.0001 + .0011 + .0064 + .0268] \\ &= 1 - [.0344] \\ &= \boxed{.9656} \end{aligned}$$

$$\begin{aligned} \text{OR} &= .0803 + .1721 + .2581 + .2581 + .1549 + .0422 \\ &= \boxed{.9657} \end{aligned}$$

$$\begin{aligned} \textcircled{9}. P(X \leq 11) &= 1 - [.0040 + .0008 + .0001] \\ &= 1 - [.0049] \\ &= \boxed{.9951} \end{aligned}$$

$$\begin{aligned} \textcircled{10}. P(\text{at least one}) &= P(X \geq 1) \\ &= 1 - [.1001] \\ &= \boxed{.8999} \end{aligned}$$

$$\begin{aligned} \textcircled{11}. P(3 < X \leq 5) &= .1104 + .1664 + .1941 + .1752 + .1327 + .0754 \\ &= \boxed{.8622} \end{aligned}$$

III

$$(12) P(X=8) = \boxed{.0970}$$

$$(13) P(X < 16) = 1 - [.0062 + .0013 + .0002]$$

$$= 1 - .0077$$

$$= \boxed{.9923}$$

$$(14) P(X \geq 14) = .0497 + .0203 + .0062 + .0013 + .0002$$

$$= \boxed{.0777}$$

$$(15) E(X) = \mu = n \cdot p$$

$$= (19)(.55)$$

$$= \boxed{.45}$$

$$(16) \sigma = \sqrt{n \cdot p \cdot q}$$

$$= \sqrt{(19)(.55)(.45)}$$

$$= \sqrt{4.7025}$$

$$= \boxed{2.169}$$

$$q = 1 - p$$

$$= 1 - .55$$

$$= .45$$