

习题二

一、填空题

1. $F(x_0) - F(x_0 - 0)$. 2. $\frac{1}{4}$ 3. 0.8
4. $F(x)$ 单调不减, 函数 $F(x)$ 右连续, 且 $F(-\infty) = 0$, $F(+\infty) = 1$.
5. 保持不变. 6. 0.5.

二、计算题:

1.

X	0	1	2
p_k	$\frac{22}{35}$	$\frac{12}{35}$	$\frac{1}{35}$

2.

X	1	2	3
p_k	0.6	0.24	0.16

3. (1) 0.072 9; (2) 0.008 56; (3) 0.999 54; (4) 0.4095 1

4. $P\{X = k\} = \left(\frac{1}{4}\right)^{k-1} \frac{3}{4}, \quad (k = 1, 2, \dots).$

5. 0.168.

6. $1 - e^{-2}$.

7. $A = \frac{1}{3}, B = \frac{1}{6}$.

9.

Y	0	2	8	18
p_i	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{11}{36}$	$\frac{1}{9}$

10.

$$f_w(w) = \begin{cases} \frac{1}{4\sqrt{2w}}, & 162 < w < 242 \\ 0, & \text{其他} \end{cases}$$

11.

$$f_Y(y) = \begin{cases} \frac{1}{3a}y^{-\frac{2}{3}}, & 0 < y < a \\ 0, & \text{其他} \end{cases}$$

12. $m = 1.96 \sigma$.