

# Assignment 7 of CISC 1006

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April 15, 2021

## 1

Calculate by Excel

### 1.1

$$P(X \geq 17) \approx 0.9849$$

### 1.2

$$P(X \leq 22) \approx 0.0912$$

### 1.3

$$\begin{aligned} P(32 \leq X \leq 41) &= P(X \leq 41) - P(X \leq 32) \\ &\approx 0.9666 - 0.6306 \\ &= 0.3360 \end{aligned}$$

### 1.4

$$\begin{aligned} P(X \leq x) &= 0.8 \\ x &\approx 35.0497 \end{aligned}$$

### 1.5

$$\begin{aligned} P(\mu - y \leq X \leq \mu + y) &= 0.75 \\ P(X \leq \mu - y) &= 0.125 \\ \mu - y &\approx 23.0979 \\ y &= 6.9021 \\ 23.0979 \leq X &\leq 36.9021 \end{aligned}$$