

Name: _____

a) How many case-sensitive alphanumeric passwords contain 3 or 4 characters?

$$\# \text{ of symbols} = 26 + 26 + 10 = 62$$

$$\begin{aligned} \# \text{ of passwords with 3 characters} &= 62^3 \\ \# \text{ of passwords with 4 characters} &= 62^4 \end{aligned}$$

$$\begin{aligned} &62^3 + 62^4 \\ \text{or } &15,014,664 \end{aligned}$$

b) How many case-sensitive alphanumeric passwords have 3 characters and contain at least one letter?

$$\begin{aligned} \text{total } \# \text{ of passwords} &= 62^3 \\ \# \text{ of passwords with no letters} &= 10^3 \end{aligned}$$

$$\begin{aligned} &62^3 - 10^3 \\ \text{or } &237,328 \end{aligned}$$