Sets

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$\emptyset \subset \{1,3\}$  \quad $n(C)=1$

$P(C)=\{\emptyset, \{1,3\}\}$ 

$n(P(C))=2$

$B=\{1,2,3\}$  \quad $n(B)=3$

$P(B)=\emptyset, \{1\}, \{2\}, \{3\}, \{1,2\}, \{1,3\}, \{2,3\}, \{1,2,3\}$

$n(P(B))=2^3=8$

$L=\emptyset, \{1,2,3\}$  \quad $n(L)=2$

$P(L)=\emptyset, \{1\}, \{2\}, \{3\}, \{1,2\}, \{1,3\}, \{2,3\}, \{1,2,3\}$

$n(P(L))=2^3=8$

$D=\emptyset, \{1,2,3,4,5\}$  \quad $n(D)=5$

$n(P(D))=2^5=32$

$E=\emptyset, \{1,2,3,4,5\}$  \quad $n(E)=5$

$n(P(E))=2^5=32$

A general rule: If $F \subseteq A \subseteq B$, then $n(P(F)) \leq n(P(A)) \leq n(P(B))$. 

\[10/9/18\]
\[1332\]
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\[ n(\mathcal{F}(F)) = 2 \]

32. \( F \) = \{players on football team\}
\( D \) = \{players who play defense\}
\( O \) = \{players who play offense\}

We know \( D \subseteq F \) because all defense players are on the football team.

We can't be sure \( D \cap F \) because some football teams might have every player on the team play on defense.

\[ D \cap F = \text{shaded area} = D \]

\[ D \cap O = \text{players who} \]