Examples.

Cube Graphs

Let $n$ be a natural number, $n \neq 0$:

$$V(G_n) = \{ d_1d_2...d_n \mid d_i \in \{0,1\} \}$$

There is an edge between two strings in $V(G_n)$ iff they differ in exactly one position.
Petersen Graph

Both a cycle graph.

\[ \frac{3}{5} \]
Complement of a (simple) graph:

\[
\begin{bmatrix}
0 & 1 & 0 \\
1 & 0 & 0 \\
0 & 0 & 0
\end{bmatrix}
\]

\[
\begin{bmatrix}
0 & 0 & 1 \\
0 & 0 & 1 \\
1 & 1 & 0
\end{bmatrix}
\]

\[\overline{G}\]

\[a \rightarrow b\]

\[a \rightarrow c\]

\[c \rightarrow b\]

page 4
HW #3

P 40 - ?

2.14 (a) (b) (c)
2.26
2.31 (a) (b)
2.33

Tree:

no cycles

Connected

Page 5
Show every tree is bipartite.

Pick any vertex as beginning!