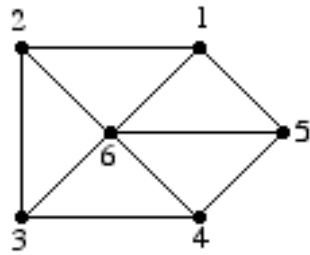


For problems 1 through 4, draw a pictorial representation of the graph.

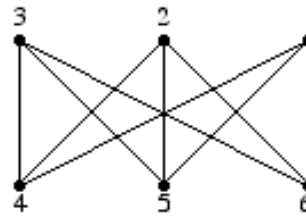
1. $V = \{1, 2, 3, 4, 5, 6\}$ $E = \{\{1, 6\}, \{1, 5\}, \{2, 3\}, \{2, 6\}, \{3, 6\}, \{4, 5\}, \{4, 6\}, \{5, 6\}\}$
2. $V = \{1, 2, 3, 4, 5, 6\}$ $E = \{\{1, 3\}, \{2, 4\}, \{2, 6\}, \{3, 5\}, \{3, 6\}, \{4, 5\}, \{4, 6\}\}$
3. $V = \{1, 2, 3, 4\}$ $E = \{\{1, 1\}, \{1, 2\}, \{2, 3\}, \{2, 4\}, \{3, 3\}, \{4, 4\}\}$
4. $V = \{1, 2, 3, 4\}$ $E = \{\{1, 2\}, \{1, 2\}, \{2, 3\}, \{2, 4\}, \{3, 4\}, \{3, 4\}\}$

For problems 5 through 8, *explicitly write out* the vertex set and the edge set.

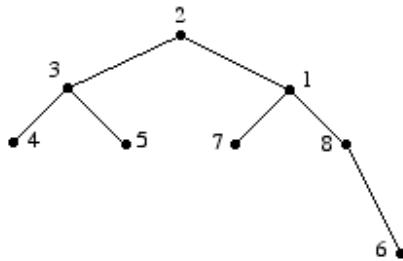
5.



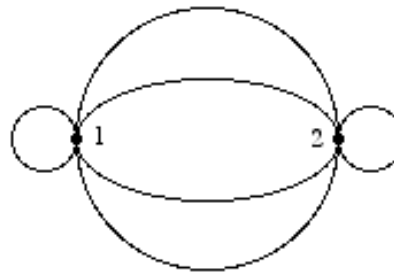
6.



7.



8.



9. $V = \{1, 2, 3, 4, 5\}$ $E = \{\{x, y\} \mid x, y \in V \text{ and } |x - y| = 1 \text{ or } 2\}$

Without any assistance from me, try to figure out what the edge set is and draw a pictorial representation of this graph. What happens if the vertex set V goes from 1 to 10 instead of 1 to 5?

Can you find a “nice” way to draw this graph?

10. For each degree sequence given below, draw a graph with that degree sequence, if possible.

- (a) 0, 0, 1, 1, 1, 2, 3
- (b) 2, 2, 2, 2, 3, 3
- (c) 1, 1, 3, 3, 5, 5, 5, 6, 6