1. How many vertices does this graph have? How many edges? What is $\text{deg}(c)$? Which vertex has the highest degree?

2. Let $G$ be the graph with $V_G = \{v_1, v_2, v_3, v_4, v_5\}$ and $E_G = \{v_1v_2, v_1v_3, v_3v_4, v_4v_2, v_1v_5, v_5v_4\}$. Draw $G$.

3. Let $V = \{\text{amble, ample, amply, apple, apply, imply, aptly}\}$. Draw the graph with $V$ as vertices, and an edge between any two words that differ by one letter.

4. Let $V$ be the set of divisors of 100. Draw the digraph with $V$ as vertices, and with a directed edge from $v$ to $w$ if $v|w$ and $w/v$ is prime.

5. The complete graph $K_n$ has $n$ vertices, and has edges connecting all pairs of vertices. Draw $K_1$, $K_2$, $K_3$, $K_4$, and $K_5$. How many edges does $K_n$ have?

6. A graph is regular if all vertices have the same degree. Draw a regular graph with eight vertices, where each vertex has degree three.

7. For any graph $G$, there is a relation between the number of edges of $G$ and the sum of the degrees of the vertices of $G$. What is it? Prove it.

8. Let $G$ be a graph, and let $Q(G)$ be the number of vertices of $G$ with odd degree. What possible values can $Q(G)$ take?