



- Does there exist a graph with 6 vertices, of degree 1, 1, 2, 2, 3, 4, respectively?

- Does there exist a graph with 6 vertices, of degree 1, 2, 2, 2, 3, 4, respectively?

- For each of the graphs you've drawn above,

- (a) add up the degrees of all the vertices.
- (b) count the edges.

Do you notice a pattern?

- Draw some more small graphs. Does the pattern continue? (If not, check your counts, or change your conjecture.)

- Can you explain the pattern you've found?

- Does the pattern explain why some of the answers to earlier questions were "no"?