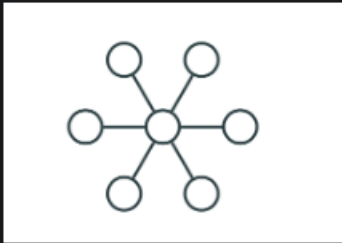


1.

1 / 1 point



What is the size of a minimum vertex cover of this graph?

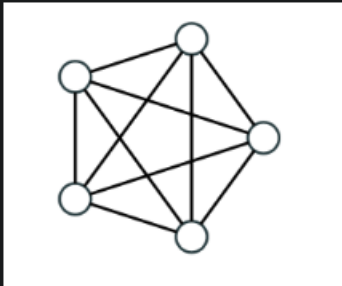
☐ 7☒ 6☐ 1☐ 2

✓ Correct

Correct, the central vertex covers all edges.

2.

1 / 1 point



What is the size of a minimum vertex cover in K_5 ?

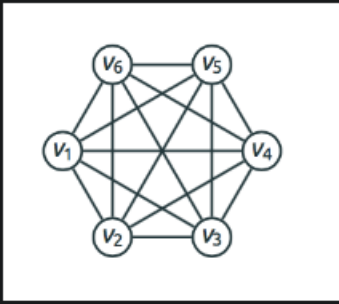
☒ 4☐ 3☐ 1☐ 5

✓ Correct

Correct, any set of 4 vertices covers all edges.

3.

1 / 1 point



What is the size of a minimum vertex cover in K_n ?

- ☐ n
☐ $\lceil n/2 \rceil + 1$
☒ $n-1$
☐ 4

✓ Correct

Correct, any set of $(n-1)$ vertices covers all edges.

4. Give an example of a graph on n vertices where a minimum vertex cover has size $\beta > n/2$ and a maximum independent set has size $\alpha > n/2$.

1 / 1 point

- ☐ $K_{n/2, n/2}$
☐ K_n
☒ There are no such graphs
☐ C_n

✓ Correct

Correct. In any graph G on n vertices, $\beta(G) + \alpha(G) = n$, thus, there are no such graphs.