MATH 3012-QHS: Applied Combinatorics
Fall 2020
Quiz 2

Name: _____

True–False:

1. There is a graph G with $\omega(G) = 2$ and $\chi(G) = 100$.
2. There is a graph G with $\omega(G) = 3$ and $\chi(G) = 100$.
3. There is a planar graph G with $\omega(G) = 2$ and $\chi(G) = 100$.
4. If $\chi(G) = 3$, then G is perfect.
5. There is a perfect graph with 240 vertices and 1024 edges
6. There is a poset with 4215 points having width 79 and height 39.
7. There is a poset with 4215 points having width 97 and height 93.
8. When $n \geq 3$, the shift graph S_n contains a triangle
9. When $n \geq 2$, the shift graph S_n has $C(n, 3)$ vertices.
10. When $n \geq 2$, the shift graph S_n has $C(n, 2)$ edges.