

8. a) If a graph has 6 vertices and the degrees of the vertices are 2,2,3,3,4,4, how many edges must the graph have?
b) Draw a sketch of such a graph.
c) If possible, sketch a second graph that is not isomorphic to the first but has the same degrees of its vertices. (Be sure to say how you know they are not isomorphic.) If it is not possible, explain why not.
9. A raffle has 1000 tickets. 1 of them is for the grand prize, worth \$1000, and 5 are for prizes worth \$100 each.
- a) If you have one raffle ticket, what is the probability that you win some prize?
b) If you have two different raffle tickets, what is the probability that you win some prize?
c) If you have two different raffle tickets, what is the probability that you win the grand prize?
d) What is the expected value of a raffle ticket?