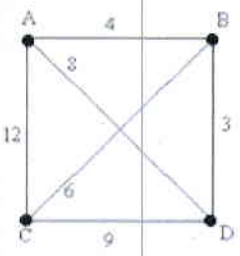
Math 1116, Hamilton circuits Activity, Fall 2014 Name KEY

Instruction: Determine if the graphs have a Hamilton circuit or path. Use brute force to find the optimal one.

1.

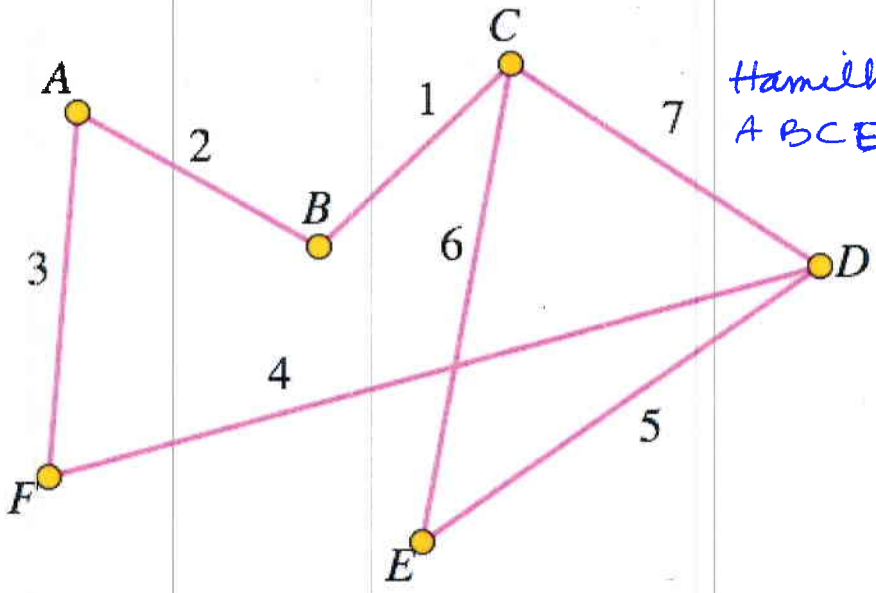


Hamilton circuit

ABDCA = 4+3+9+12 = 28 ACBDA = 12+6+3+8 = 29

ABCDA = 4+6+9+8 = 27 *

2.

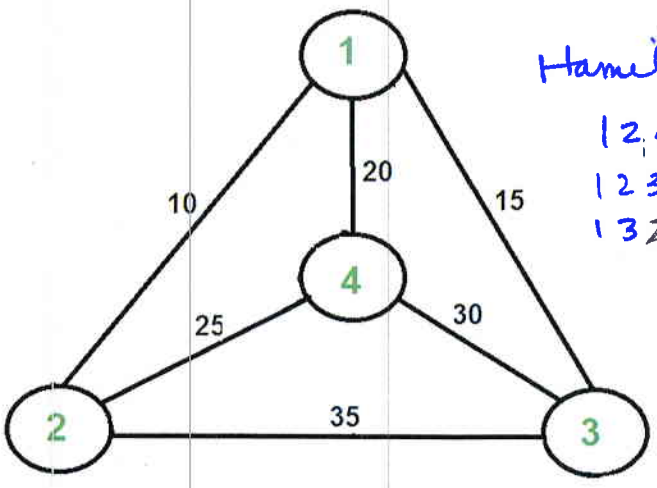


Hamilton circuit

ABCEDFA = 2+1+6+5+4+3 = 21 *

only one

3.



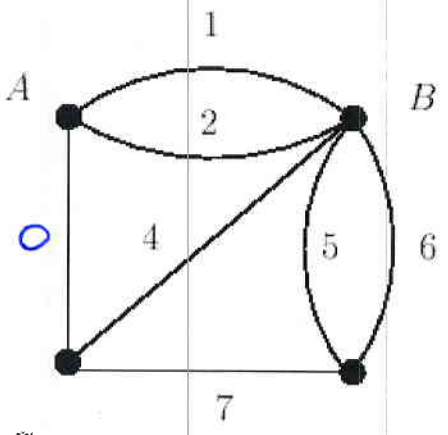
Hamilton circuit

1 2 4 3 1 = 10+25+30+15 = 80 *

1 2 3 4 1 = 10+35+30+20 = 95

1 3 2 4 1 = 15+35+25+20 = 90

4.

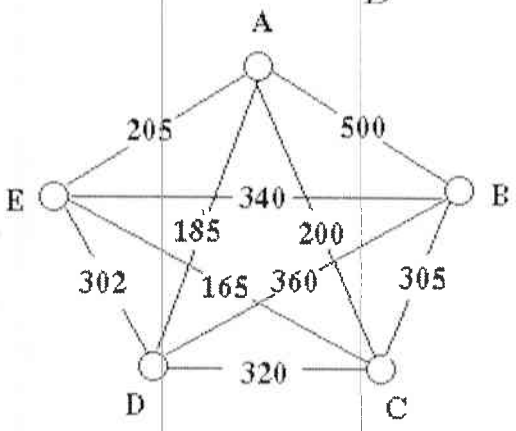


Hamilton circuit

ABDCA = 1+5+7+0 = 13

or 15

5.



Hamilton circuit

ABCDEA = 500 + 305 + 320 + 302 + 205 = 1632

ABDECA = 500 + 360 + 302 + 165 + 200 = 1527

ABECDA = 500 + 340 + 165 + 320 + 185 = 1510

ABCEDA = 500 + 305 + 165 + 302 + 185 = 1457

ACDEBA = 200 + 320 + 302 + 340 + 500 = 1662

ACBEDA = 200 + 305 + 340 + 302 + 185 = 1332

ADBCEA = 185 + 360 + 305 + 165 + 205 = 1220 ★★

ADCBEA = 185 + 320 + 305 + 340 + 205 = 1355