

9, 3/1, 5, 6, 7, 8, 14, 15, 17

1. a) one less than # of vertices: $3! = 6$

Start — b) \textcircled{A} -B B-D D-P P-A
 104 310 156 357 = 927

choose different starting pts a) \textcircled{B} -A A-D D-P P-B
 104 144 156 446 = 850

\textcircled{D} -A A-B B-P P-D = 848
 144 104 444 156

\textcircled{P} -D D-A A-B B-P = 848
 156 144 104 444

d) cheapest uses 104

D-A-B-P-D (can rearrange to start at A-B-P-D-A)

e) only 2 more routes not tried

A-P-B-D-A
 357 446 310 144 = 1257 (bad)

I stopped writing vertices twice

A-P-D-B-A
 357 156 312 104 = 929

5. \textcircled{I} - F - K - B - C - L - F

10 8 15 18 37 35 = 123

New start points

6. \textcircled{K} - F - C - B - L - K

8 10 22 18 19 32 = 109

\textcircled{B} - K - F - C - L - B

15 8 10 22 37 19 = 110

\textcircled{L} - F - K - B - C - L

15 8 14 22 18 19 = 96 * Best

\textcircled{C} - F - K - B - L - C

14 8 14 27 19 37 = 119

\textcircled{F} - K - B - C - L - F

8 15 18 22 35 15

