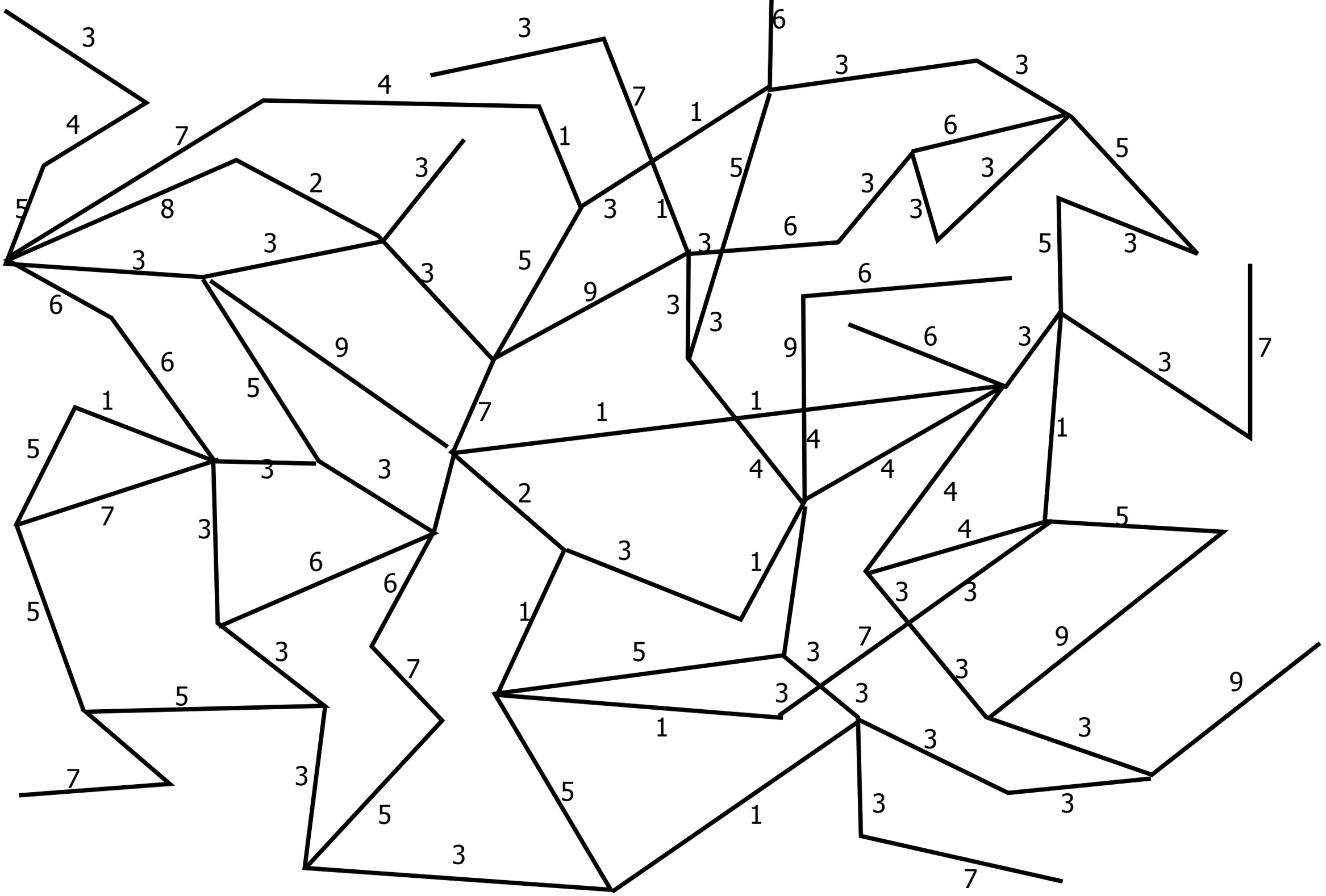
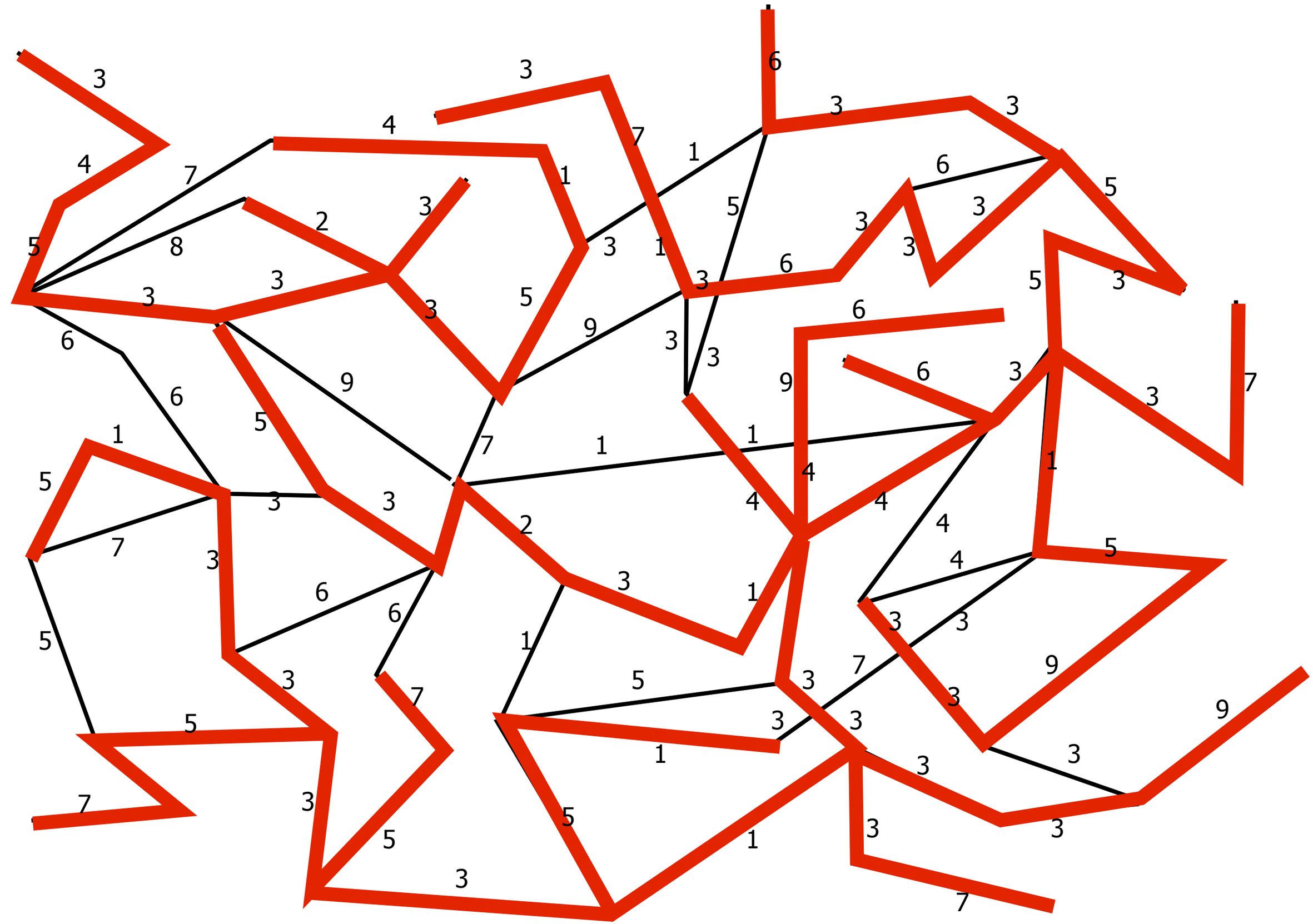
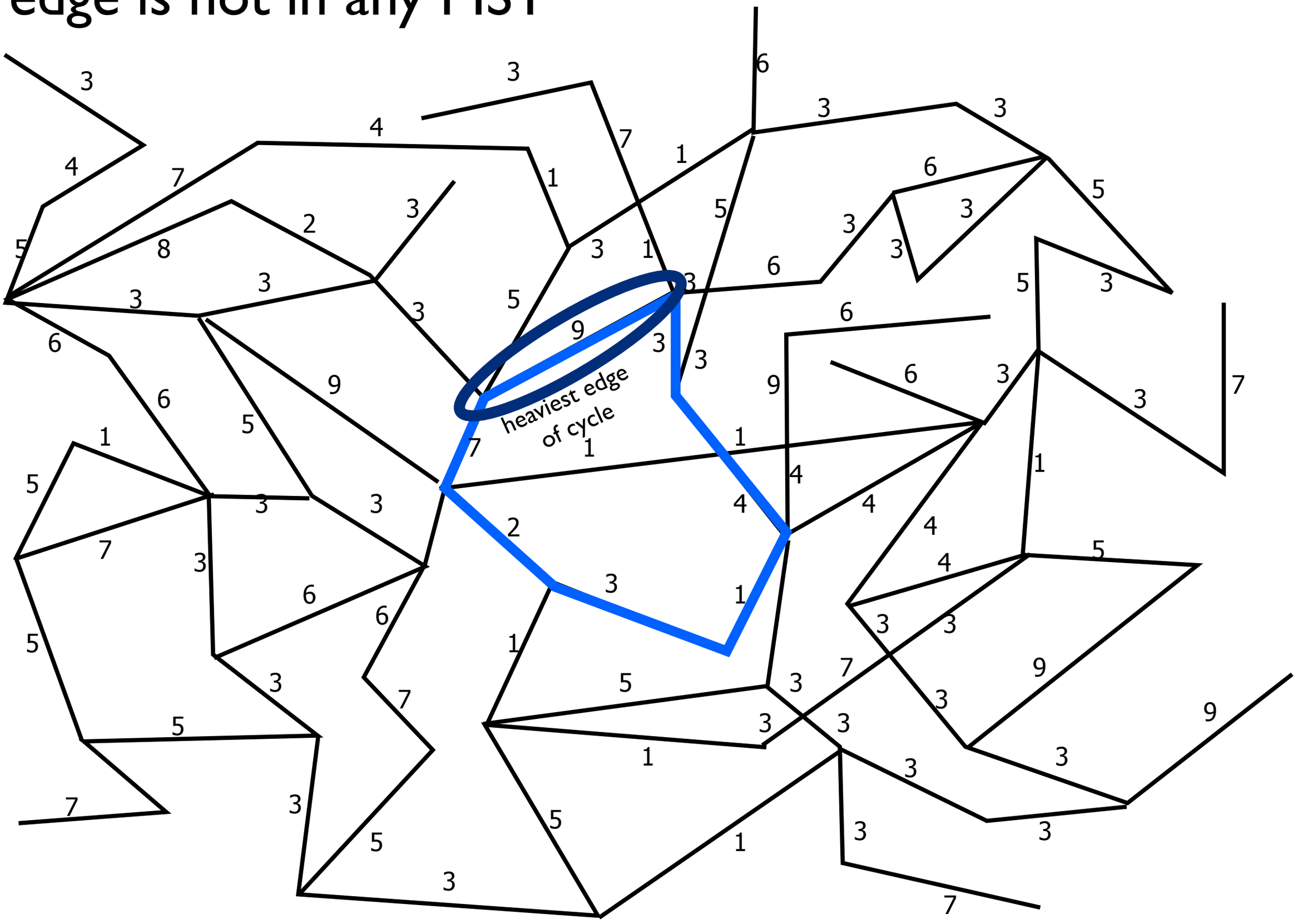
# Given undirected graph with edge weights
# Minimum Spanning Tree: lowest cost spanning tree



# Minimum Spanning Tree

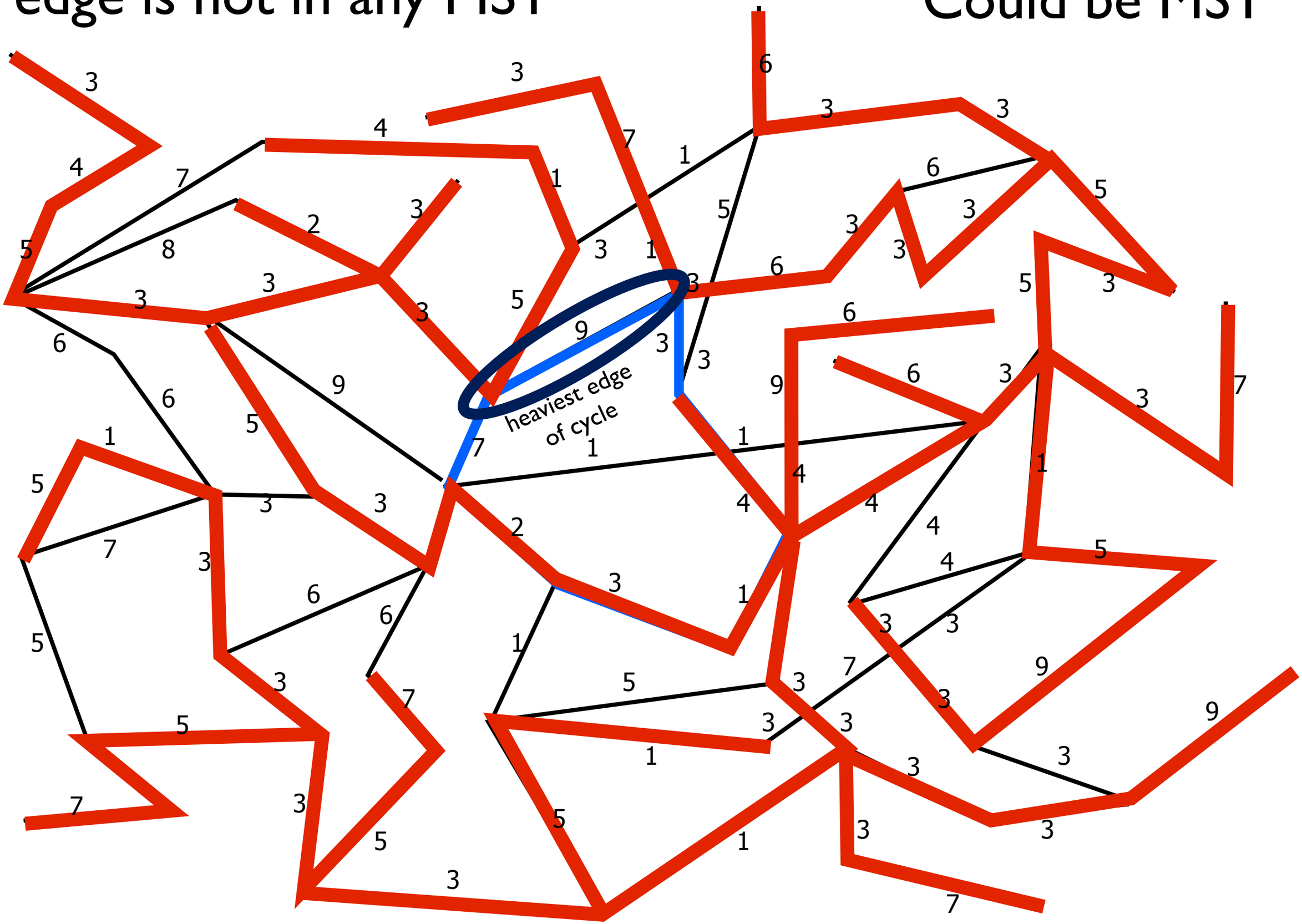


# Cycle Property: heaviest edge is not in any MST



# Cycle Property: heaviest edge is not in any MST

Could be MST



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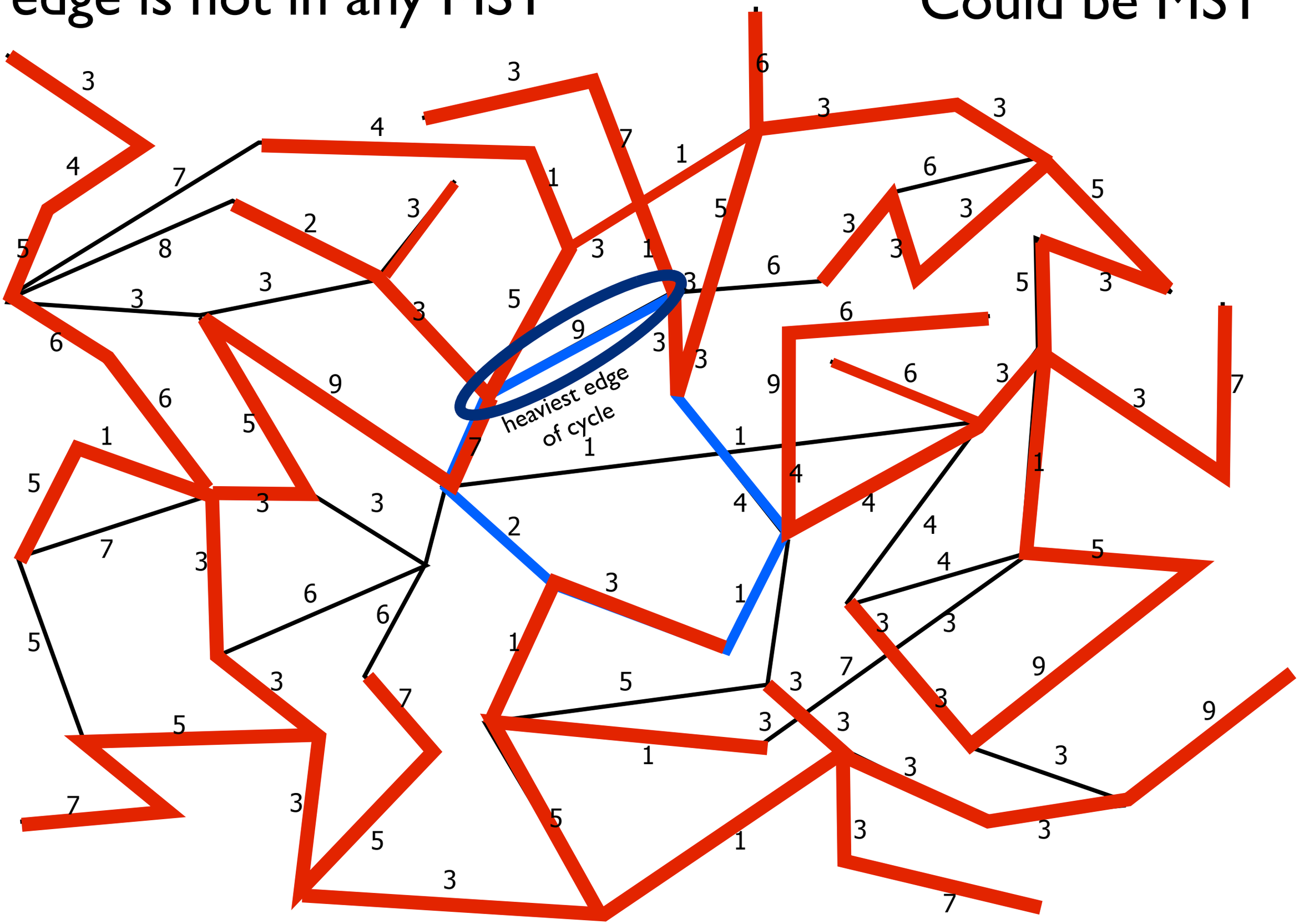
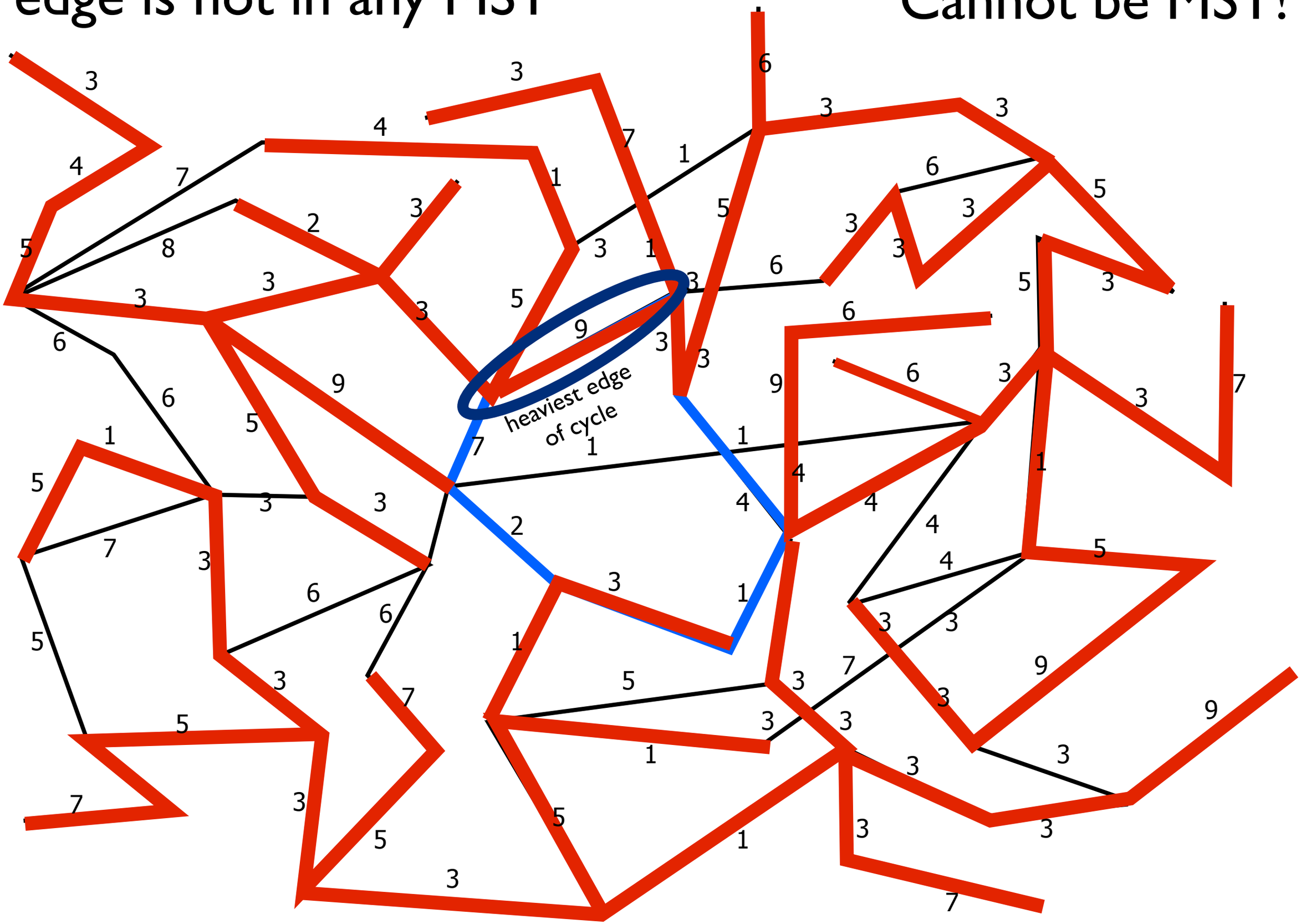


# Cycle Property: heaviest edge is not in any MST

Cannot be MST!



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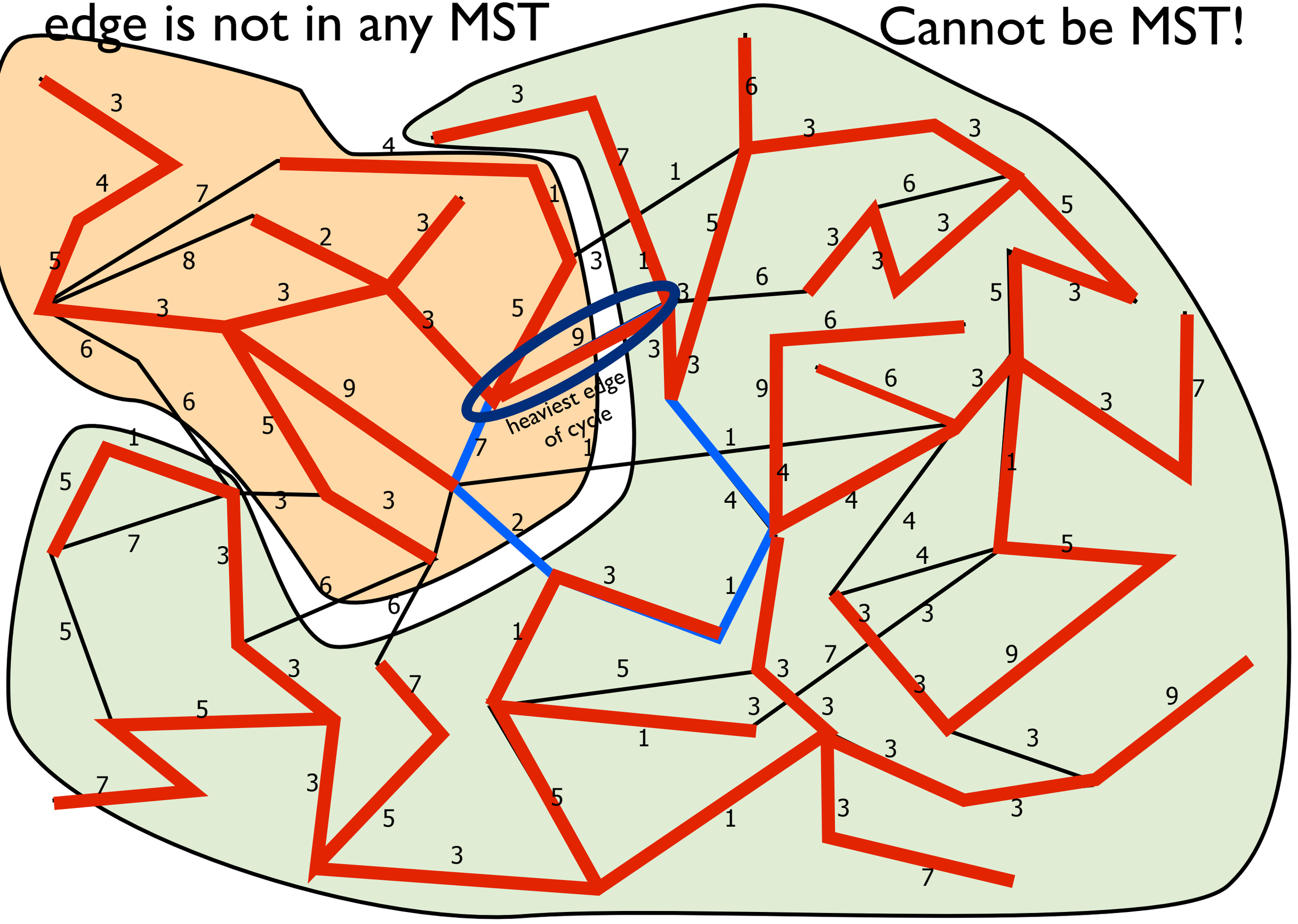
Cannot be MST!



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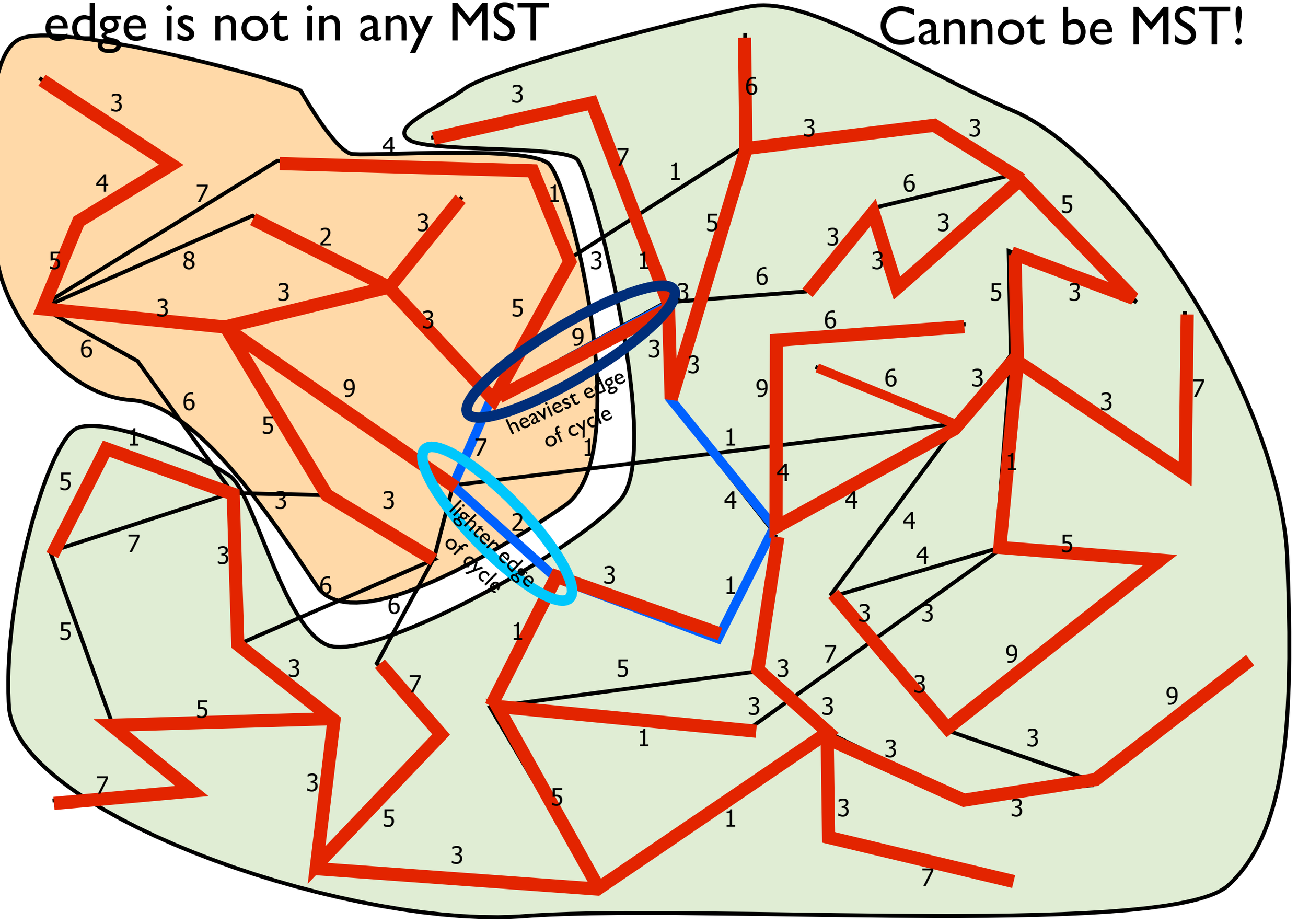
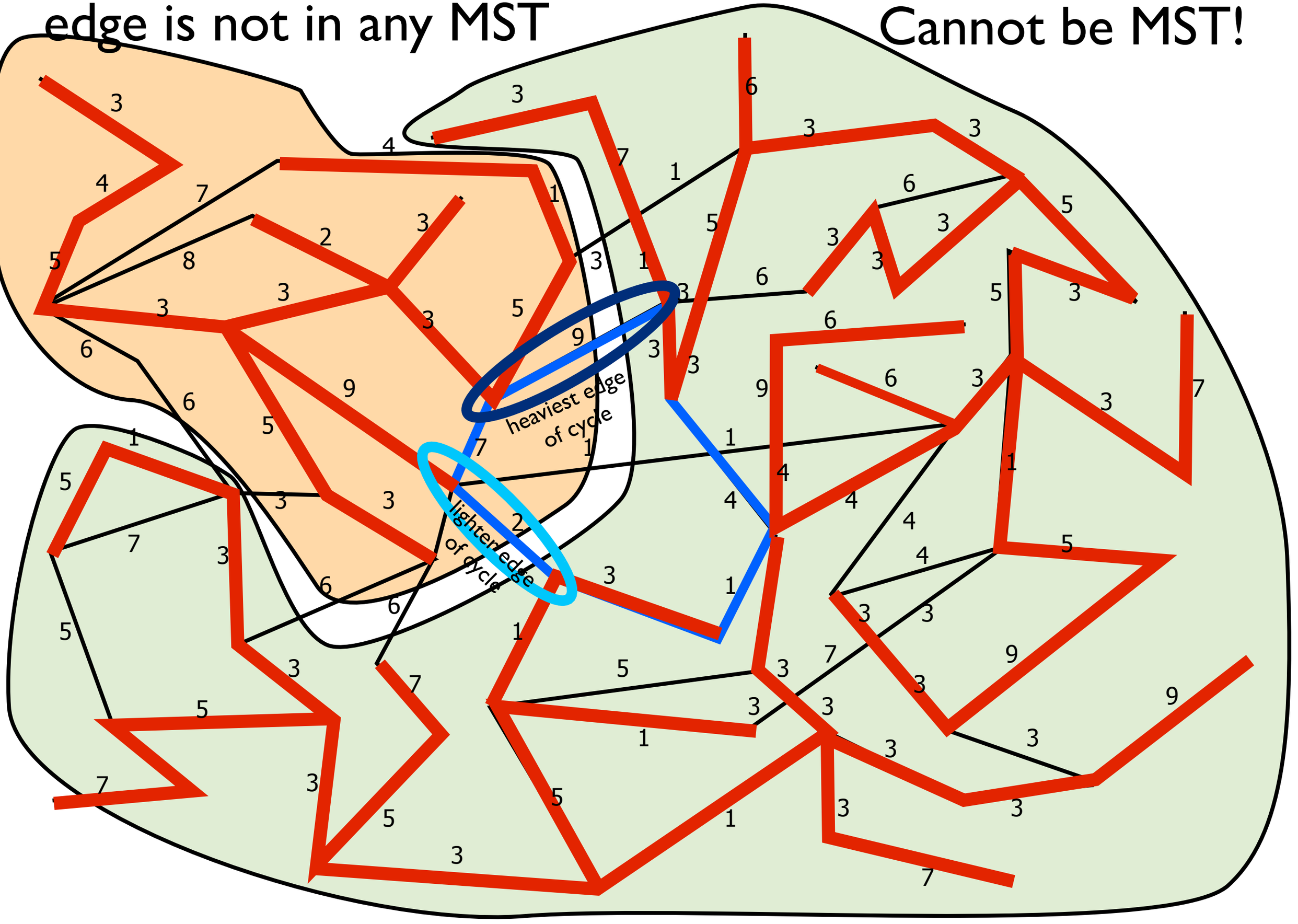


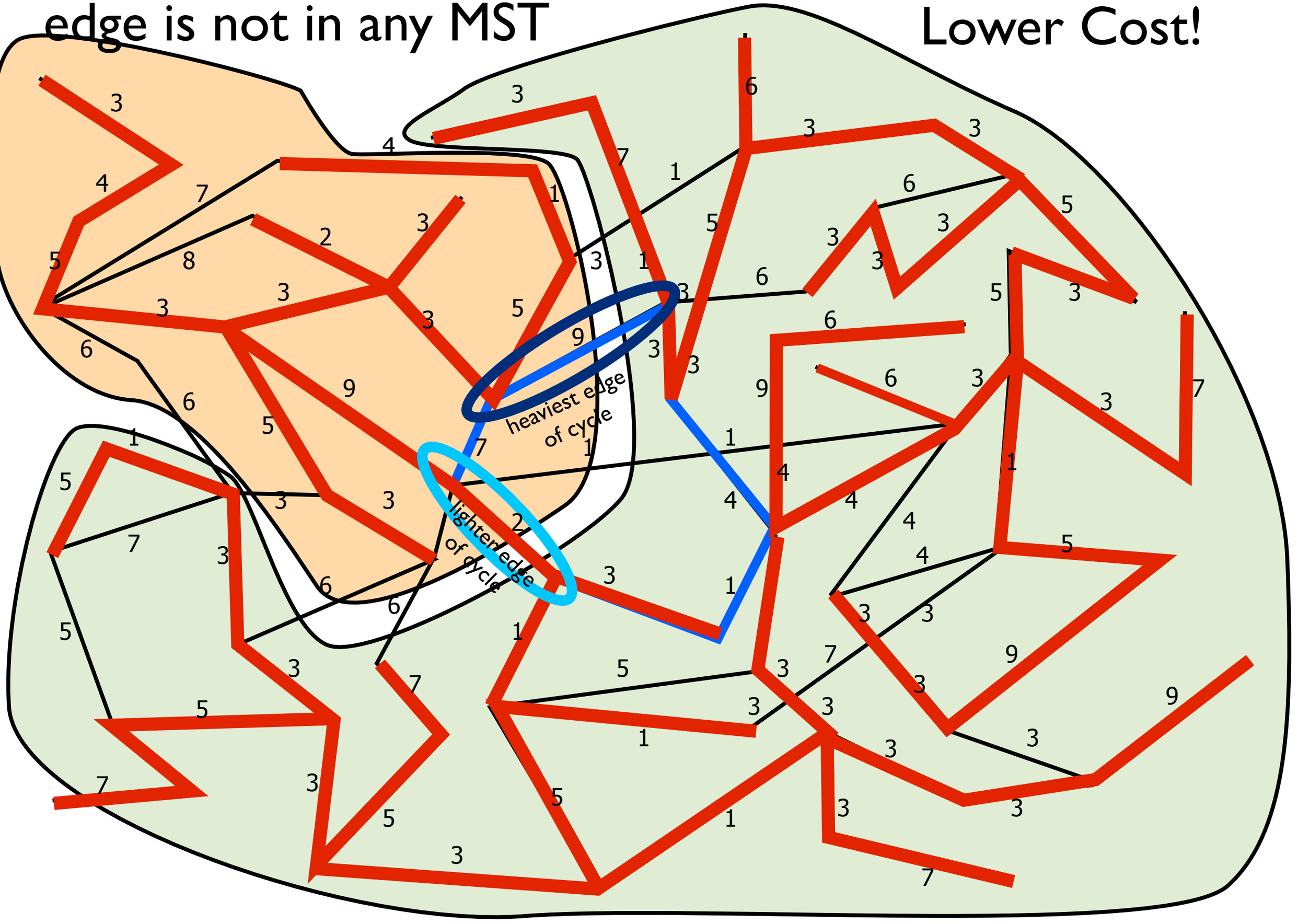
# Cycle Property: heaviest edge is not in any MST

Cannot be MST!

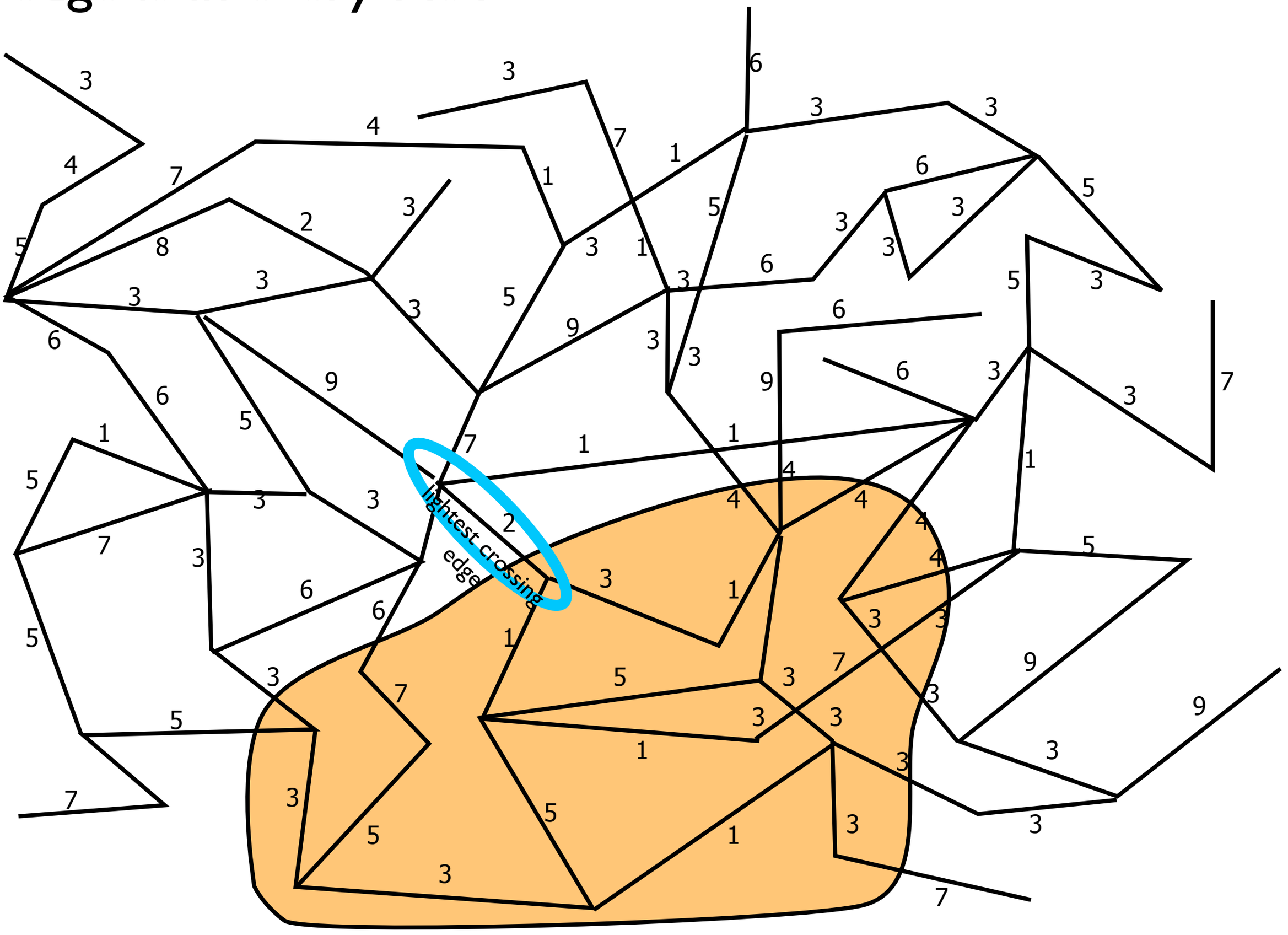


# Cycle Property: heaviest edge is not in any MST

Lower Cost!

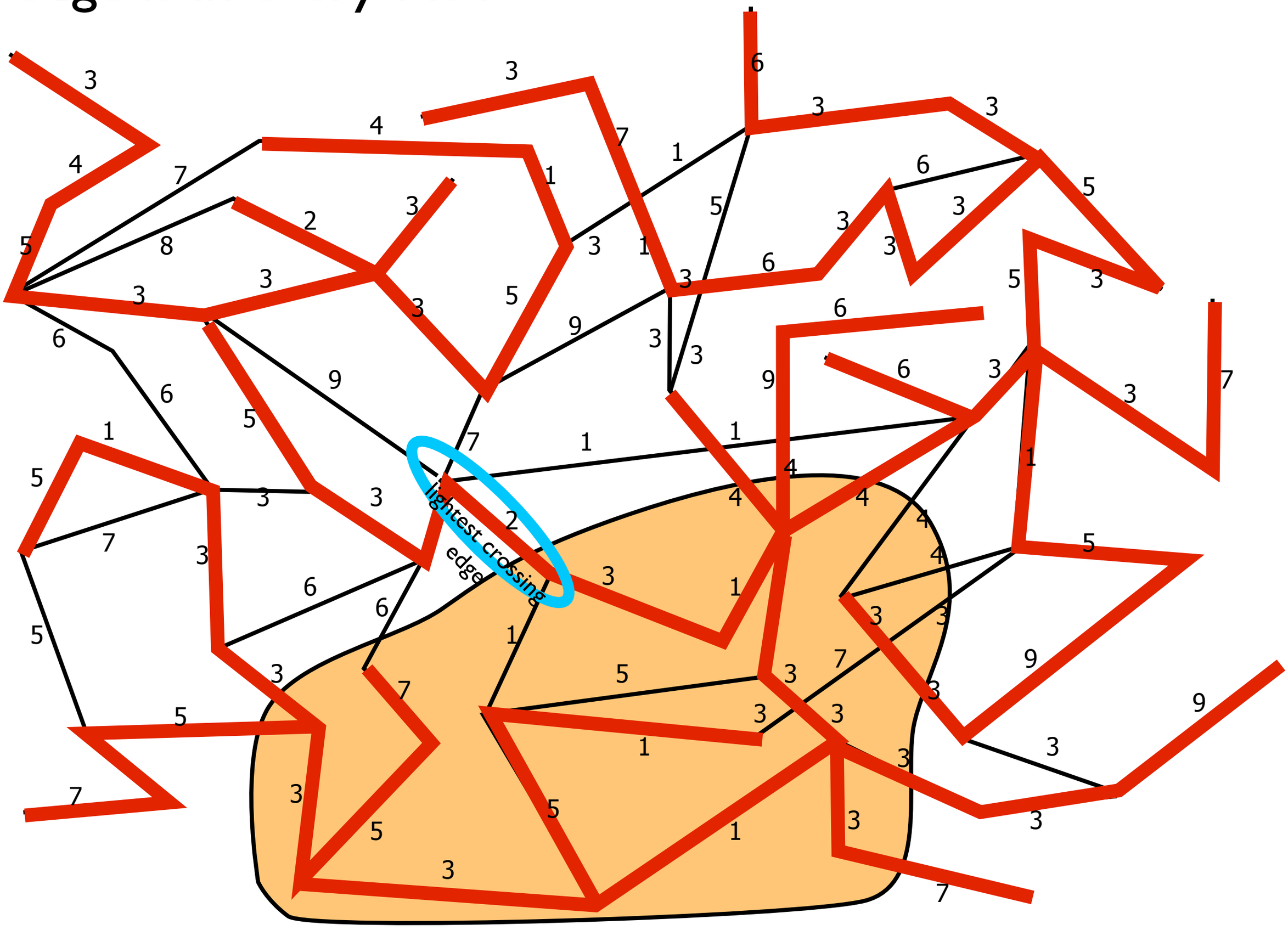


# Cut Property: lightest cut edge is in every MST



# Cut Property: lightest cut edge is in every MST

Could be MST



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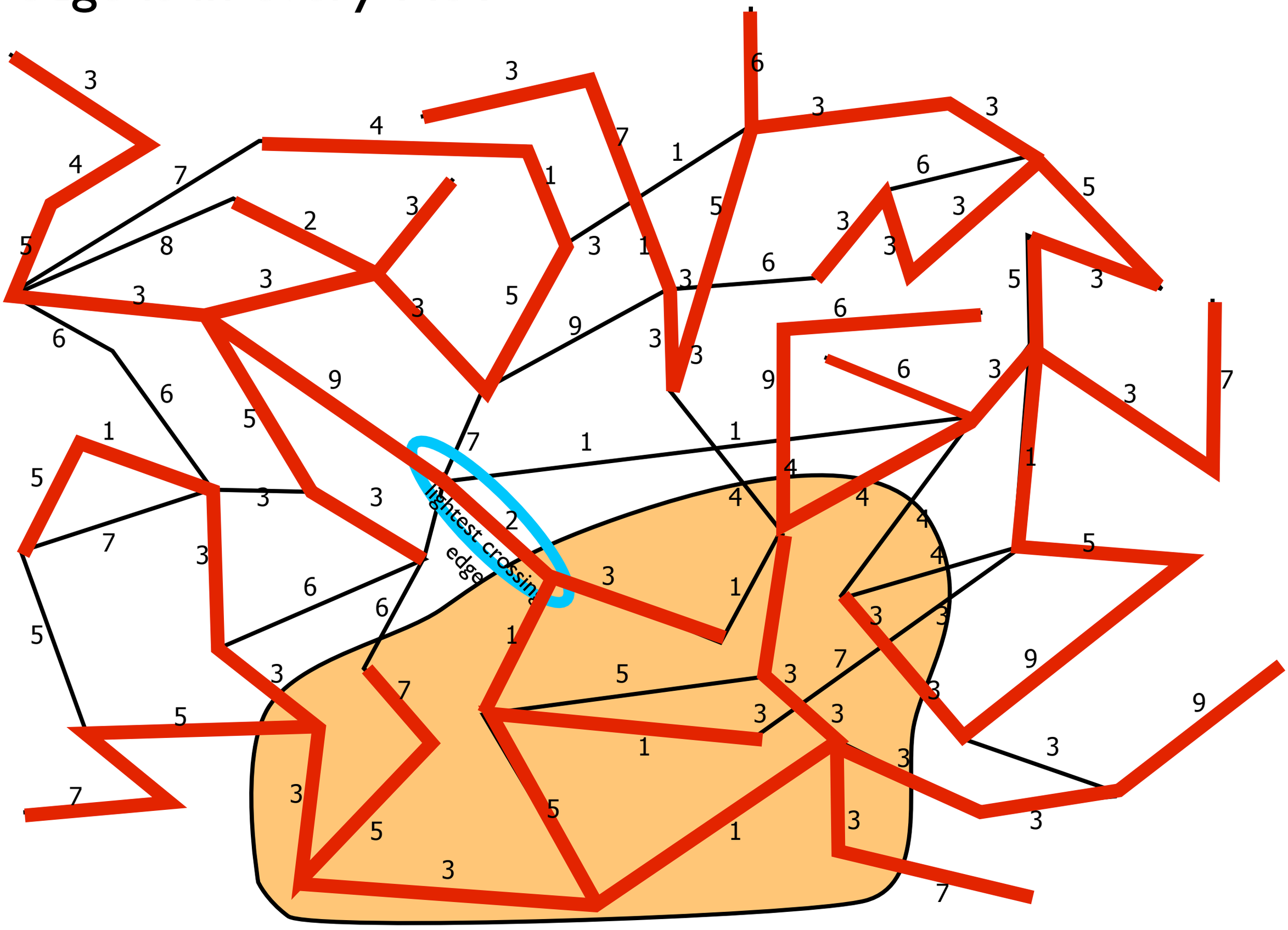
Could be MST



# Cut Property: lightest cut edge is in every MST

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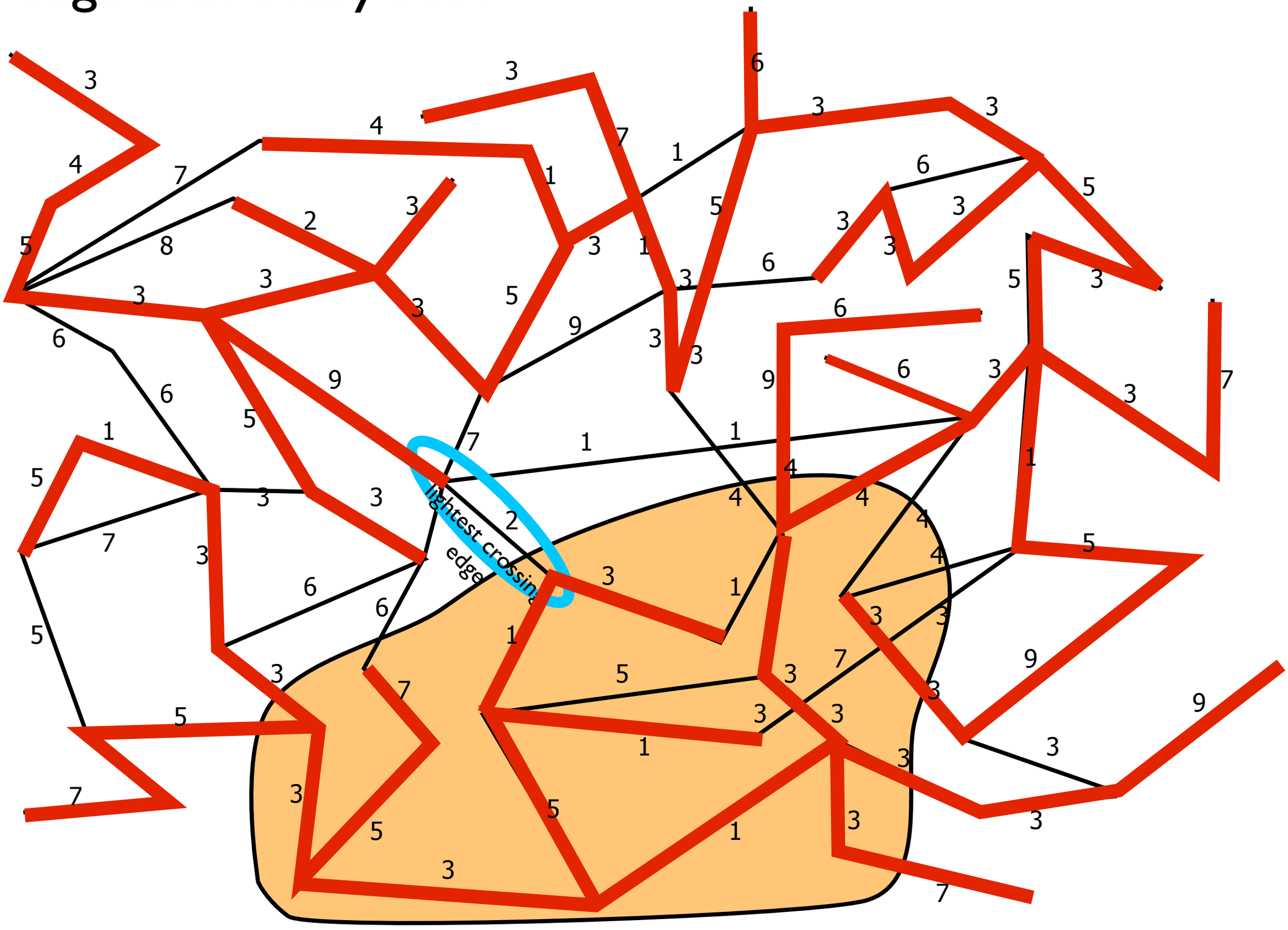

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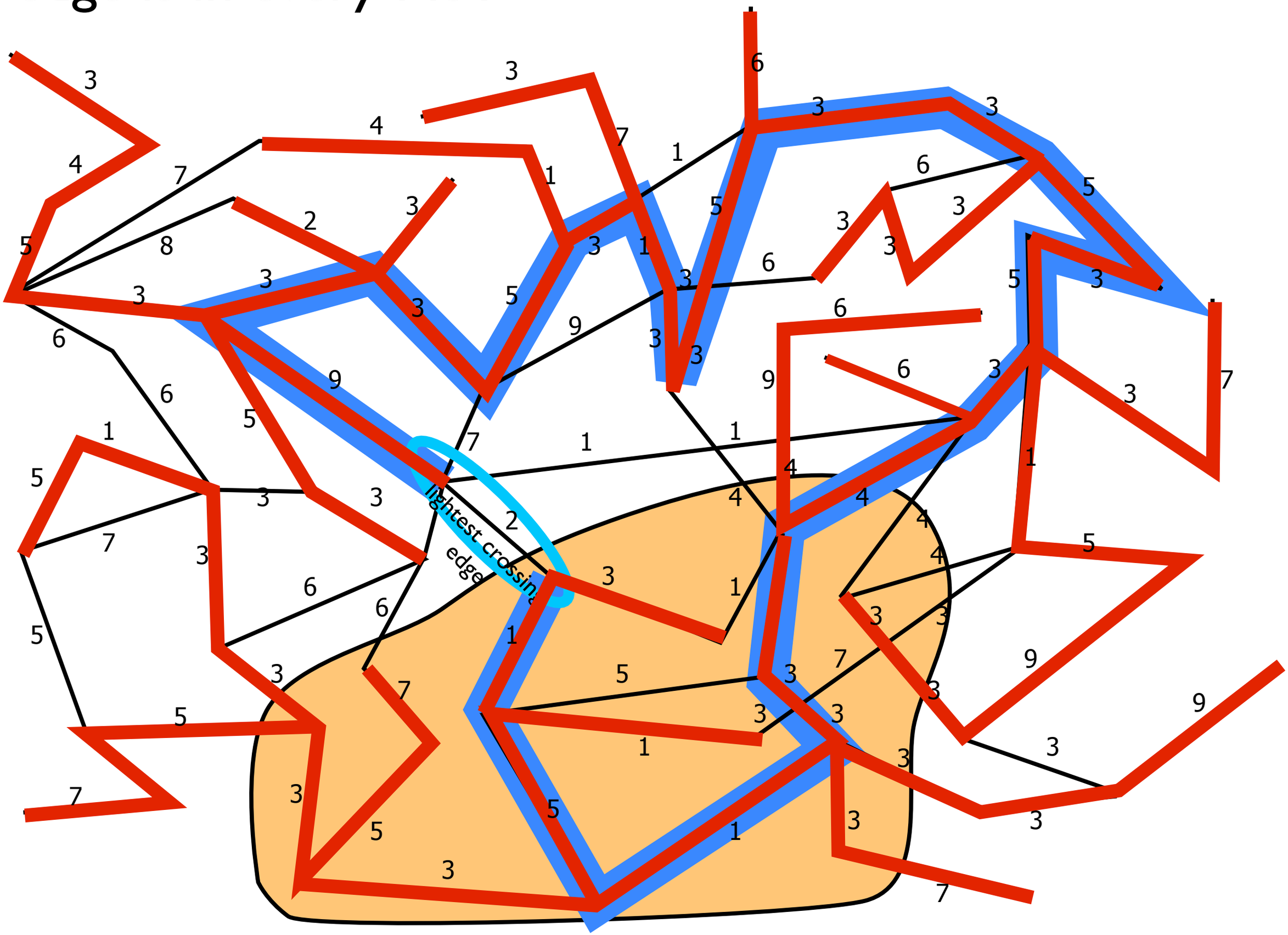

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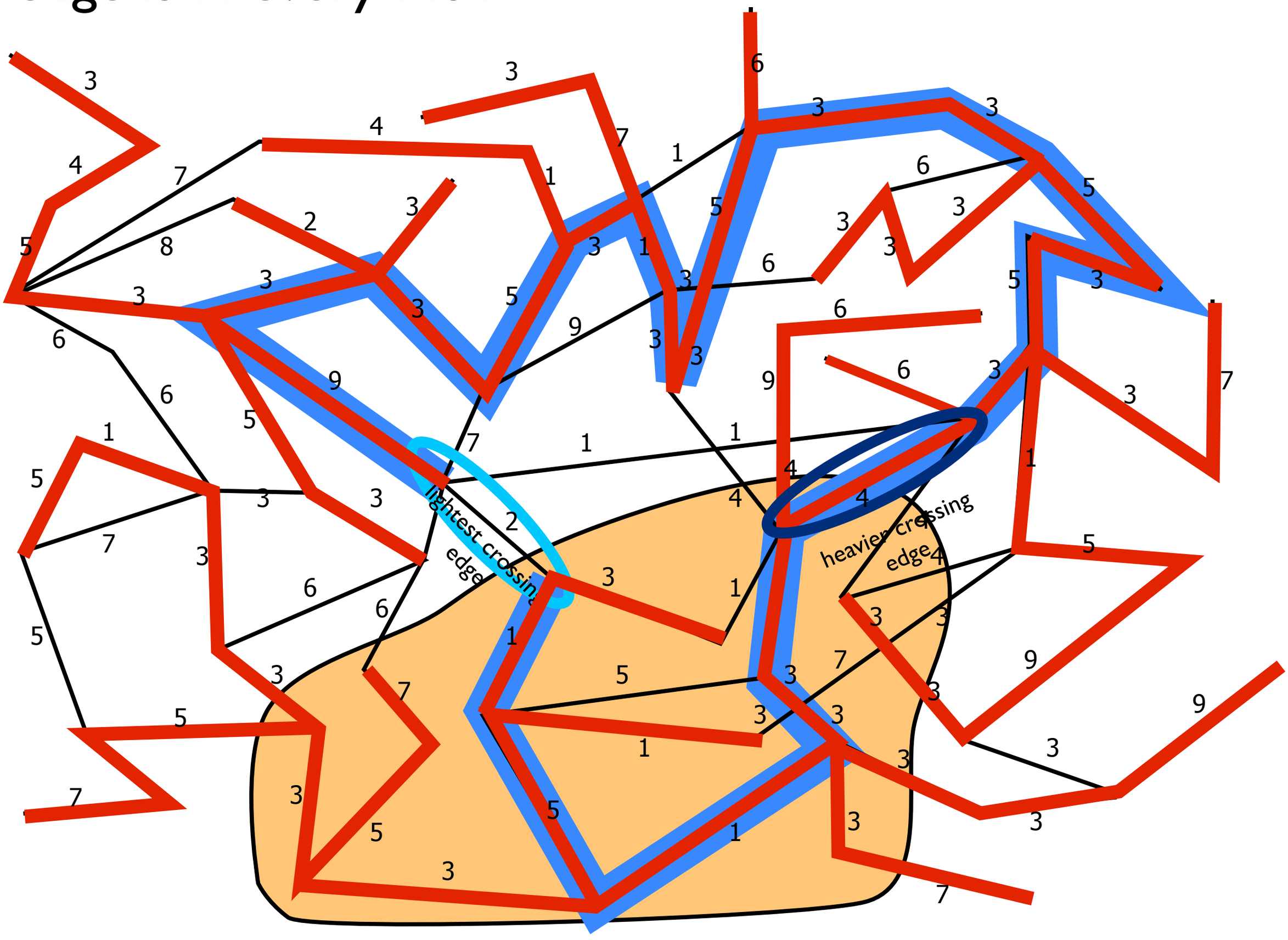

# Cut Property: lightest cut edge is in every MST

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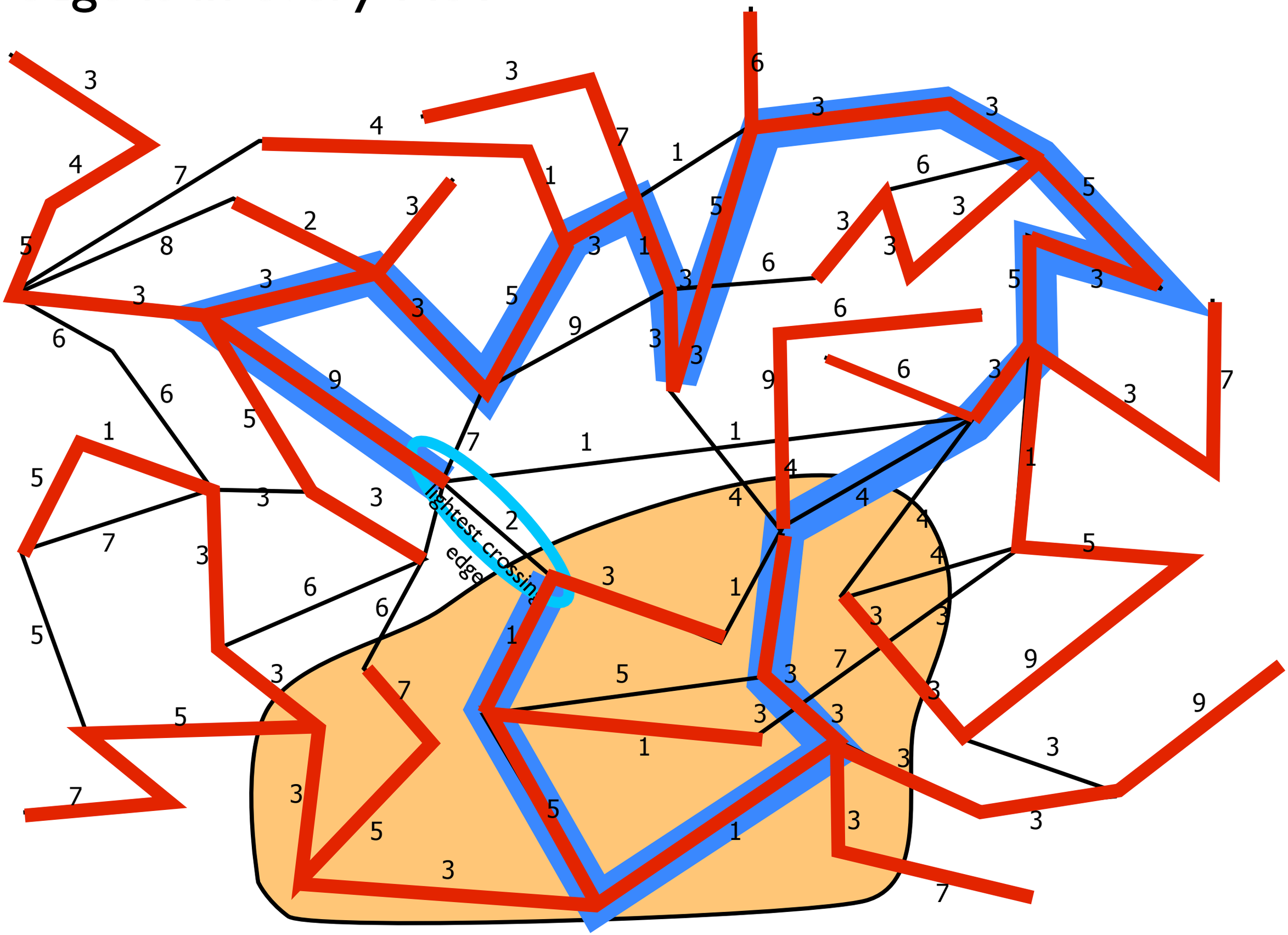

# Cut Property: lightest cut edge is in every MST

Lower cost tree!