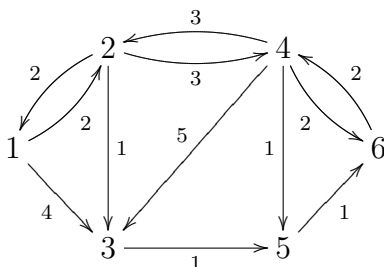


Consider the following network of islands called  $1, \dots, 6$ , with distances between them indicated in miles.



One must pay a toll to travel along certain bridges and in certain directions only; the islanders refuse to pay these, so have restricted their network to those directions they can travel along for free. A 3-islander (one who lives on island 3) wants to know his shortest route home from each of the other islands.

1. (a) Solve the islander's problem using your preferred algorithm from section 14.3.
  - (b) Solve the same problem using another algorithm from section 14.3.
  - (c) If your answer to (a) or (b) used the simplex method, solve the problem again using a third algorithm from section 14.3.
2. *"This isn't really linear programming because we aren't using the simplex method."* Discuss. (No more than 50 words.)