

**ZMATH 2013b.00746**

**Choate, Jon; Davis, Marsha**

**Networks.**

Consortium, No. 101, pull-out section, 16 p. (2011).

From the introduction: The focus of this pull-out is on networks – specifically, airline networks and social networks. Analysis of networks relies on the mathematical field of graph theory. Activity 1 provides students with an introduction to graph theory. In the second activity, students represent airline networks with graphs and matrices. They learn to use their matrix representations to determine how efficiently (number of stops between starting point and destination) a person could fly from one airport to another anywhere within the network. In the third activity, students work with social networks. They learn a method of grouping people into clusters and one means of recommending a potential friend to a newcomer to the social network.

*Classification:* K30 N70 M50 M70

*Keywords:* graph theory; teaching units; student activities; worksheets; matrices; matrix operations; graphs; vertices; edges; calculators; applications software; spread sheets; networks; shortest paths; neighbourhood; intersections; unions; Jaccard index; nodes; adjacency matrix; density; mathematical applications; traffic; social networks; individual cluster coefficient; group cluster coefficient; clique; Facebook