

## planetmath.org

Math for the people, by the people.

## game

Canonical name Game

Date of creation 2013-03-22 12:51:19 Last modified on 2013-03-22 12:51:19

Owner Henry (455) Last modified by Henry (455)

Numerical id 12

Author Henry (455) Entry type Definition Classification msc 91A99

Related topic CommonKnowledge
Related topic NormalFormGame
Related topic CompleteInformation

Related topic Strategy2
Defines outcome
Defines game
Defines player

Defines utility function

Defines payoff

In general, a *game* is a way of describing a situation in which *players* make choices with the intent of optimizing their *utility*. Formally, a game includes three features:

- a set of pure strategies for each player (their strategy space)
- ullet a way of determining an outcome from the strategies selected by the players
- ullet a utility function for each player specifying their  ${\it payoff}$  for each outcome