6.6 Key Concepts 1 Characteristics of Linear and Non-linear Relations Worked Example

Example: What three characteristics would you expect in a linear relation?

Solution: The graph would be a straight line. The equation would not contain a power of x other than 1. The first differences in a table of values would have a constant value.
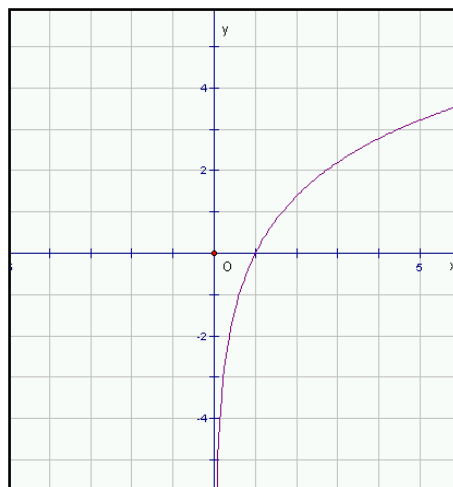
Practice:

1. What three characteristics would you expect in a non-linear relation?

2. Circle each of the following that represent a non-linear relation:

a)

$y = 3 - x^3$

b)

c)

x	y
-3	-8
0	-1
3	0
6	1

Answers: 1. The graph would not be a straight line, the equation would contain at least one power of x other than 1, and the first differences would not have a constant value. 2. a), b) and c)