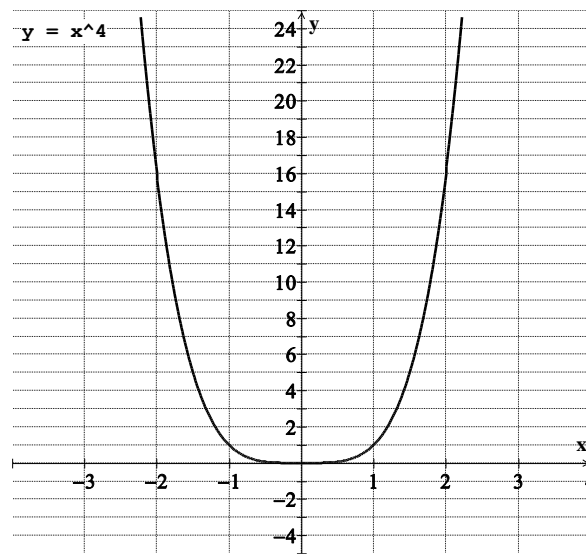## 6.3 Solving Equations in the Form $x^n = a$

We can solve this type of equation by:

a) **factoring**.   Eg $x^4 = 16$

b) **graphing**   Eg $x^4 = 16$

y = x^4

c) **taking the nth root**
- the odd root of a positive number is positive
- the odd root of a negative number is negative
- the even root of a positive number is both positive and negative
- the even root of a negative number does not exist

Eg. Determine the following:

a) $x^6 = 1\,000\,000$ b) $x^3 = 64$ c) $x^4 = -500$ d) $x^5 = -32$