**Investigating with indices**

You will be using a calculator to investigate what happens to a number when you raise it to a negative or fractional power. You will then use your newly gained knowledge to answer some further questions without a calculator.

1. Use your calculator to work out the answers to the following:

a)  b)  c)  d)  e) 

2. Write a sentence about what you have found out.

3. Use your calculator to work out the following:

a)  b)  c)  d)  e) 

4. Write a sentence about what you have found out.

5. Use your calculator to work out the following:

a)  b)  c)  d)  e) 

6. Write a sentence about what you have found out.

7. Now use your knowledge to work out the following WITHOUT A CALCULATOR.

Your answers should be expressed as whole numbers or fractions.

a)  b)  c)  d)  e) 

f)  g)  h)  i)  j) 

k)  l)  m)  n)  o) 

p)  q)  r)  s)  t) 

8. Investigate other fractional or negative powers and write down your conclusions.