

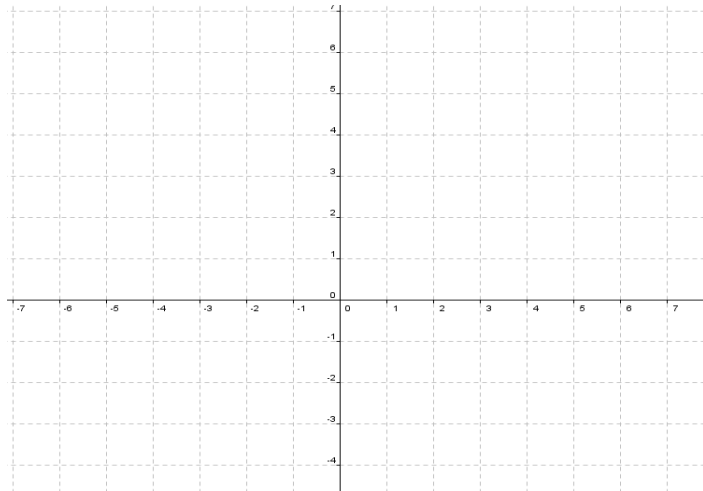
Student Activity: Two to the power of n

Use in connection with the interactive file, '2 to the power', on the Student's CD.

1.

- a. Complete the following table and represent the data on the graph:

| x | 2^x |
|----|-------|
| 3 | |
| 2 | |
| 1 | |
| 0 | |
| -1 | |
| -2 | |
| -3 | |



- b. Describe the shape of the graph for values of x less than 0. Does it ever cut the x axis?

2. Multiply $2^{\frac{1}{2}}$ by 2. Write this in the form 2^n . Hence explain why the value of $2^{\frac{1}{2}}$ must be double $2^{\frac{1}{4}}$. Does the graph in the interactive file support this correct to two decimal places?

3. Multiply $2^{1\frac{1}{2}}$ by 2. Write this in the form 2^n . Hence explain why the value of $2^{2\frac{1}{2}}$ must be double $2^{1\frac{1}{2}}$. Does the graph in the interactive file support this correct to three decimal places?

4. If $m = 2^{\frac{1}{2}}$, what is m^2 ?

5. If $t = 2^{\frac{1}{3}}$, what is t^3 ?