

Recognise, sketch and interpret graphs of exponential functions ($y = k^x$)



Graphs of exponential functions ($y = k^x$)

1. Each statement is about a graph of the form $y = k^x$ where $k > 0$

Decide whether each is always, sometimes or never true.

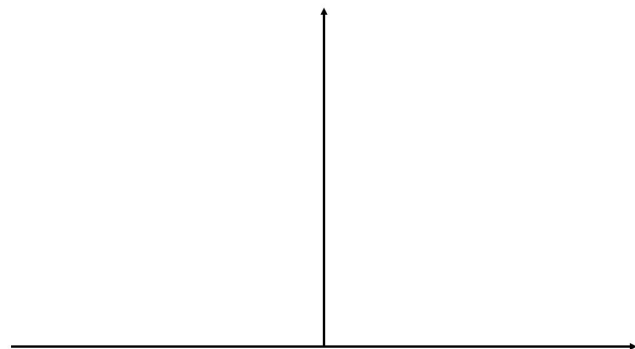
- The graph intercepts the y -axis at the point $(0, 1)$
- The graph passes through the 3rd quadrant.
- As x increases, y increases exponentially.

2. A graph has equation $y = 2^x$

a) Complete the table of values.

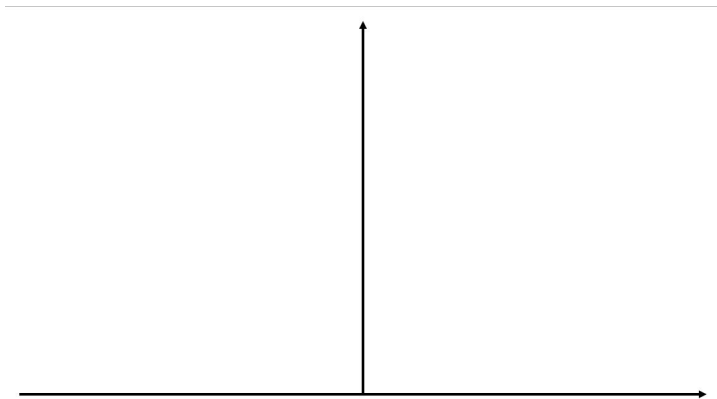
			0	1	2

b) Sketch the graph of $y = 2^x$

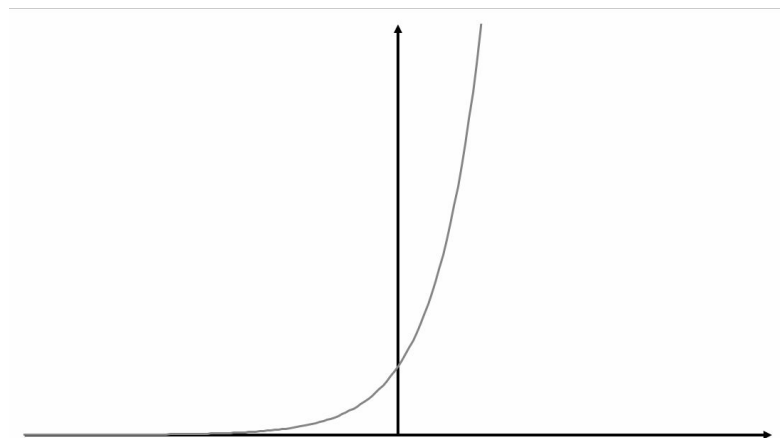


Graphs of exponential functions ($y = k^x$)

3. Sketch the graph of $y = 0.5^x$



4. Here is a sketch of the graph $y = 5^x$



On the same axis, sketch the graph of

a) $y = 10^x$

b) $y = 2.5^x$

c) $y = 0.2^x$



Answers



Graphs of exponential functions ($y = k^x$)

1. Each statement is about a graph of the form $y = k^x$ where $k > 0$

Decide whether each is always, sometimes or never true.

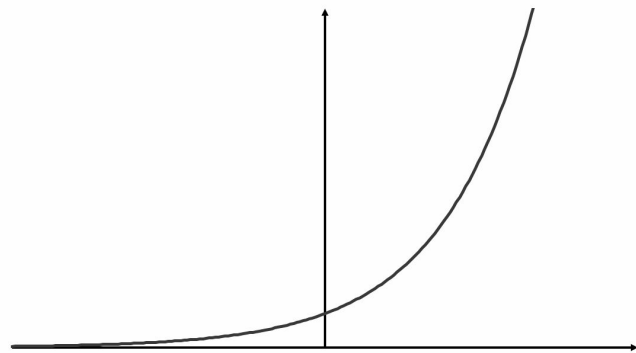
- The graph intercepts the y -axis at the point $(0, 1)$ Always
- The graph passes through the 3rd quadrant. Never
- As x increases, y increases exponentially. Sometimes

2. A graph has equation $y = 2^x$

a) Complete the table of values.

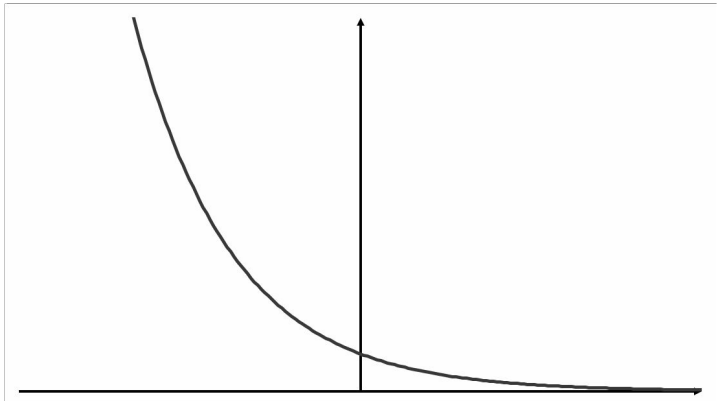
			0	1	2
	0.25	0.5	1	2	4

b) Sketch the graph of $y = 2^x$

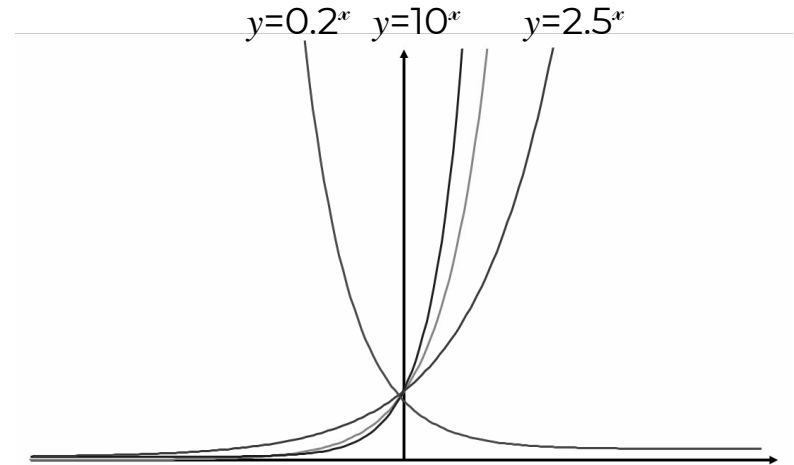


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