

EXPONENTIALS

Exponentials

- If $a > 1$ all graphs of the form $y = a^x$ and $y = a^{-x}$ are exponential curves.
- Exponentials of the form $y = a^x$ or $y = a^{-x}$ all pass through $(0, 1)$
- The larger the value of 'a' the steeper the curve.
- For $y = a^x$ or $y = a^{-x}$, the x -axis ($y=0$) is an asymptote.

For $y = a^x$ or $y = a^{-x}$

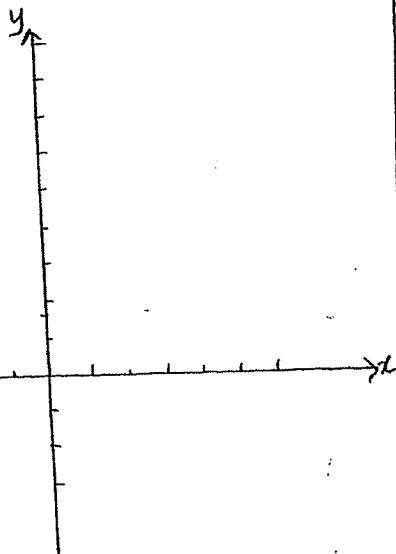
Domain: All real x

Range: All real $y > 0$

Examples:

① $y = 2^x$

x	-3	-2	-1	0	1	2	3
y							



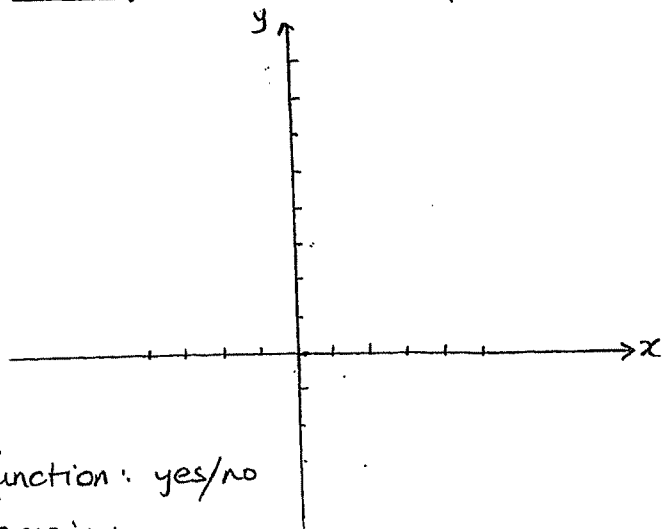
Function: yes/no

Domain:

Range:

② $y = 2^{-x}$

x	-3	-2	-1	0	1	2	3
y							

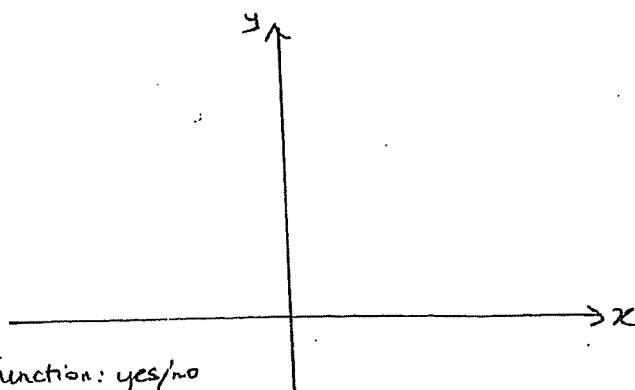


Function: yes/no

Domain:

Range:

③ $y = 2^x + 1$

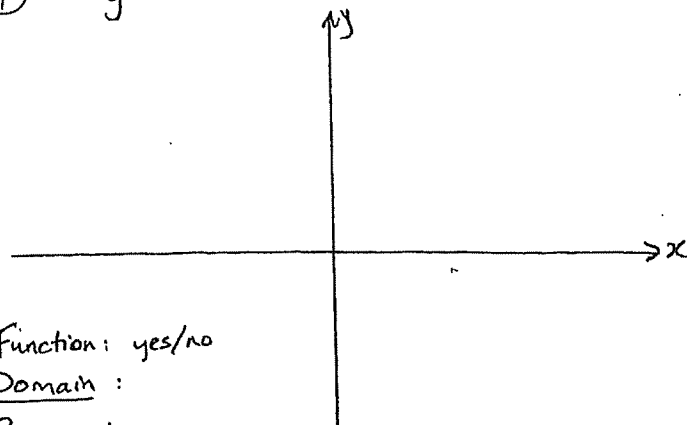


Function: yes/no

Domain:

Range:

④ $y = 2^{-x} - 1$



Function: yes/no

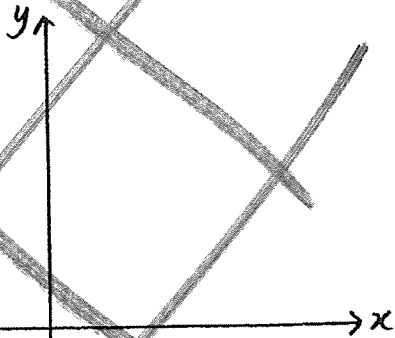
Domain:

Range:

~~HYPERBOLAS - MORE!~~

Sketch:

① $y = \frac{1}{2x-1}$

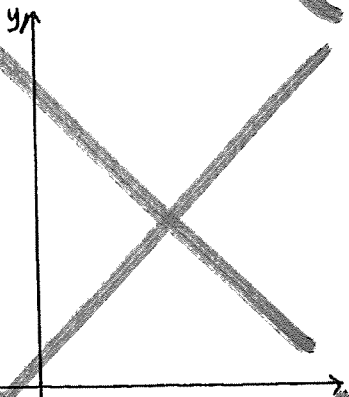


Function? yes/no

Domain:

Range:

② $y = \frac{2}{x+2} + 1$



Function? yes/no

Domain:

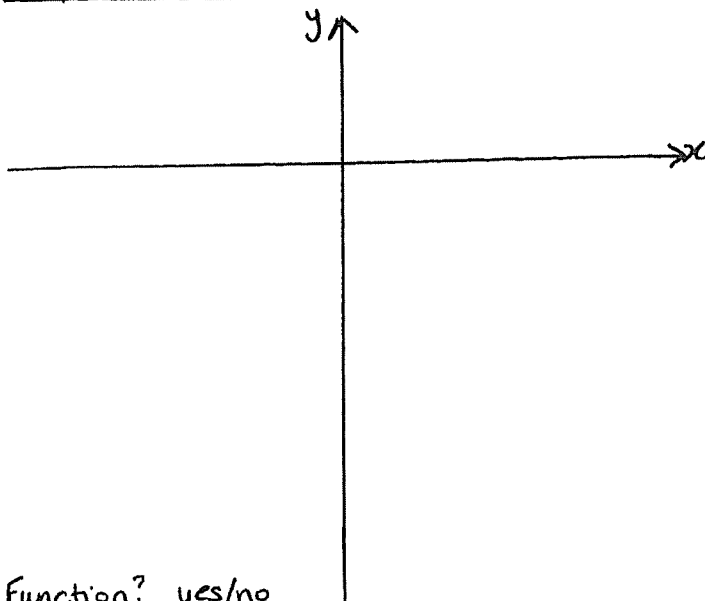
Range:

EXPONENTIALS - MORE!

Sketch

① $y = -2^x$

x	-4	-3	-2	-1	0	1	2	3	4
y									



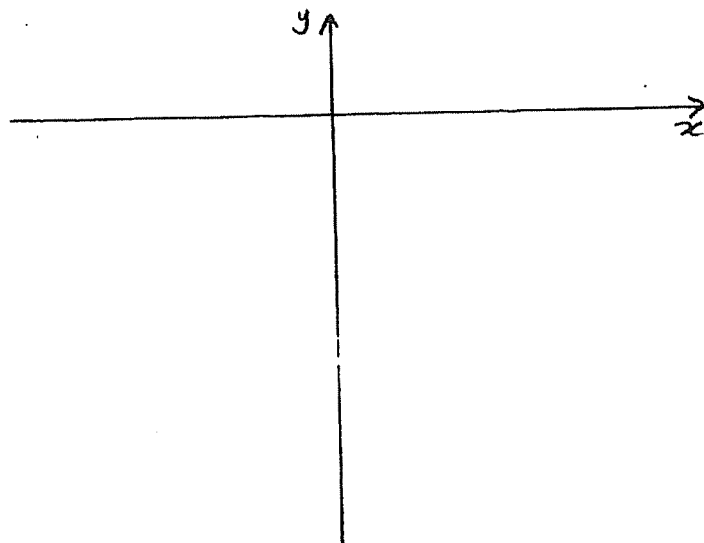
Function? yes/no

Domain:

Range:

② $y = -2^{-x}$

x	-4	-3	-2	-1	0	1	2	3	4
y									



Function? yes/no

Domain:

Range: