11. The function $f(x)$ has these properties.
- As x increases, $f(x)$ approaches 3.
- As x decreases, $f(x)$ increases.
- The domain of $f(x)$ is all real numbers.

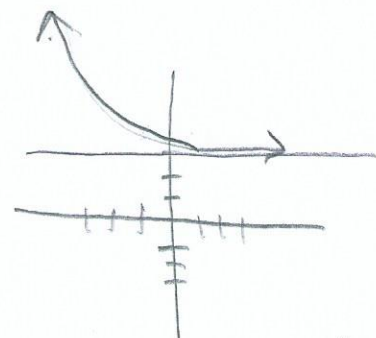Which of the following could be the function?

A. $f(x) = -2^{x-3}$

B. $f(x) = \left(\frac{1}{2}\right)^{x-3}$
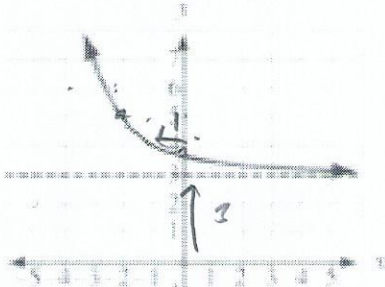
C. $f(x) = -2^x + 3$

D. $f(x) = \left(\frac{1}{2}\right)^x + 3$

means asymptote at 3
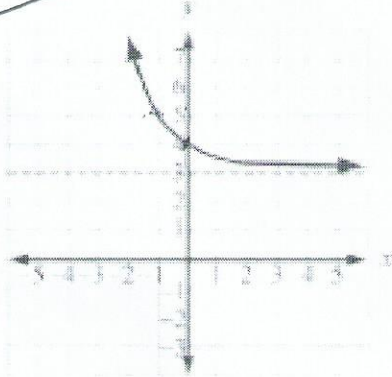*k=3 so A and B are wrong*

means a is positive because its increasing
so D is right

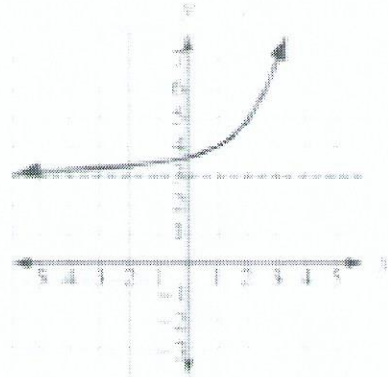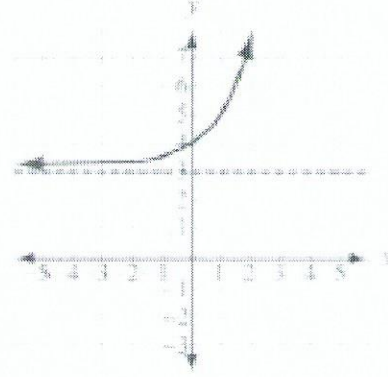12. Which graph represents $f(x) = \left(\frac{1}{2}\right)^{x+1} + 3$?

up 3
left 1
or
make t chart

x	y
1	3.25
0	3.5
h→ -1	4
-2	5
-3	7

A.

B.

C.

D.