

{ تجميع أسئلة }  
{ ماث أول }.

رياضيات

Chapter 5

Section 5.1

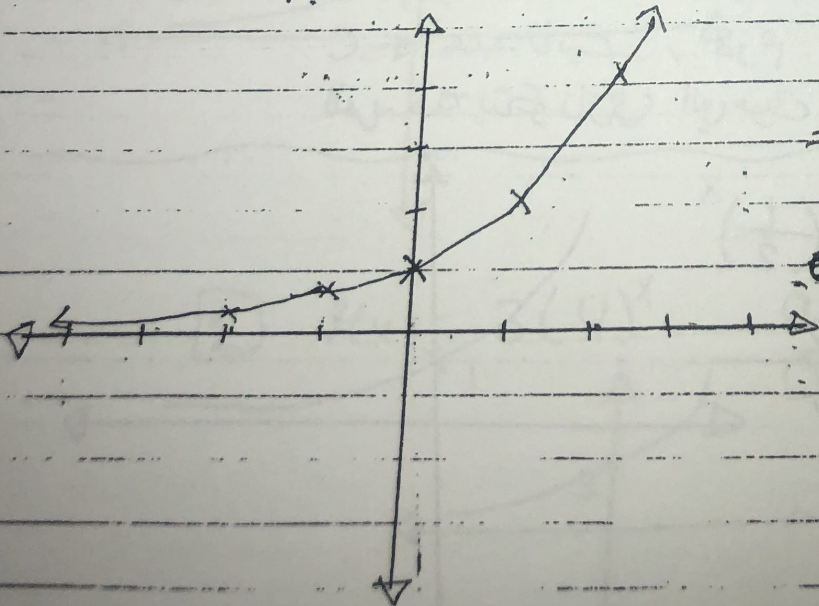
(\*) The equation  $y = 2^x$  is an example of a special group of functions called exponential functions

⇒ If  $a$  is a real number with  $a > 0$  and  $a \neq 1$ , then the function  $f(x) = a^x$  is an exponential function with base  $a$ .

for example  $f(x) = 2^x$        $f(x) = 3^{-x}$   
 $f(x) = (\frac{1}{2})^x$        $f(x) = e^x$

Ex Graph the function  $f(x) = 2^x$

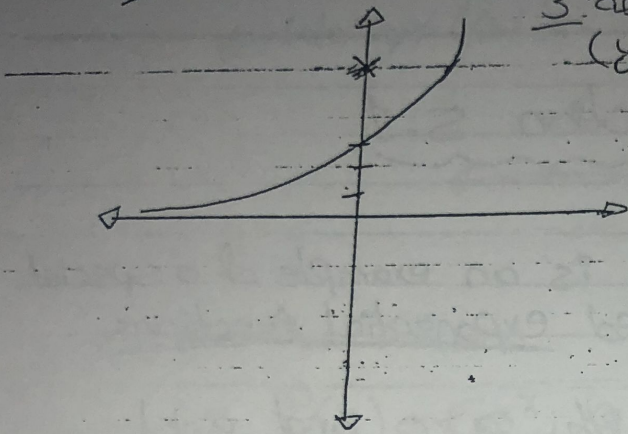
x	-2	-1	0	1	2
y	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4



⇒ يتقاطع عند  $y = 1$

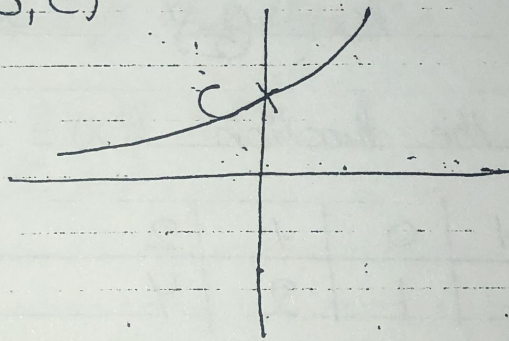
لا يقطع المحور  $x$  عند  $y = 0$   
الرقم المضمون  $2^x$

Ex  $f(x) = 3(2)^x \rightarrow$  بقطع محور (y)   
 الصادات عند القيمة 3   
 (y-intercept)



⊛ Graphs of the exponential Growth Functions :-   
 له القاعدة الاولى

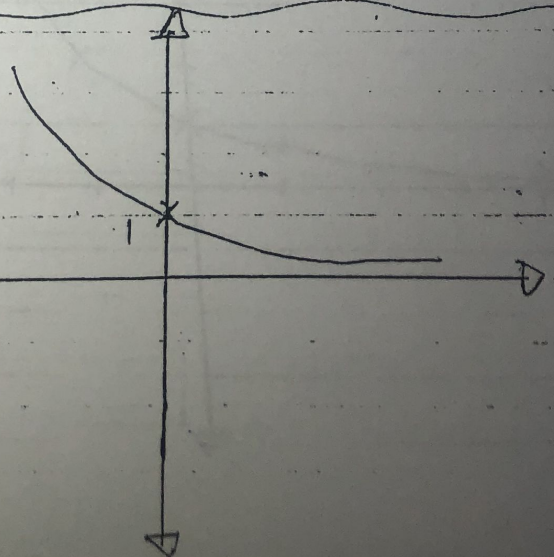
$y = f(x) = ca^x$  ( $c > 0, a > 1$ )   
 y-intercept (0, c)



$c$  عدد ثابت ، لازم  $c$  أكبر من صفر ،  $a$  أكبر من واحد   
 للرسمه بتكون زي التي فوق إذا تحقق الشرط

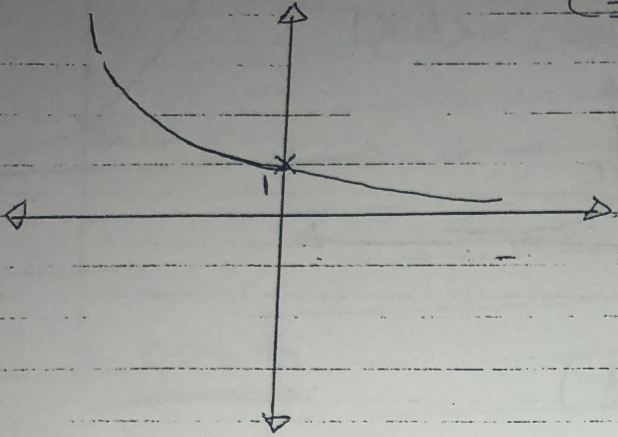
Ex Graph  $f(x) = 2^{-x} = \left(\frac{1}{2}\right)^x$

x	-2	-1	0	1	2
y	4	2	1	$\frac{1}{2}$	$\frac{1}{4}$

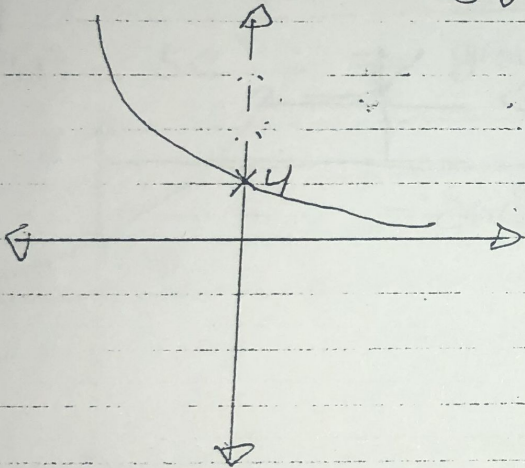




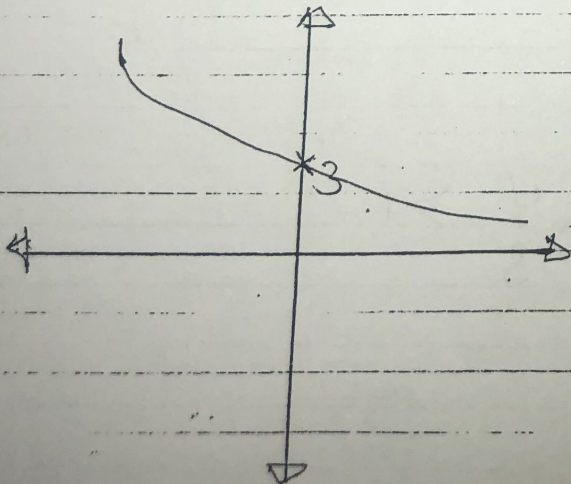
[3]  $f(x) = \left(\frac{1}{3}\right)^x$      $a = \frac{1}{3} < 1$   
 $c = 1$



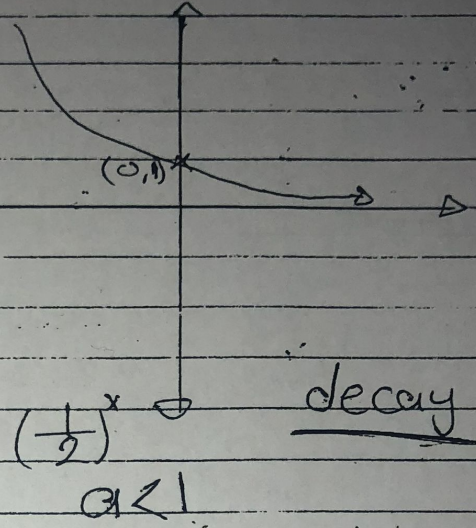
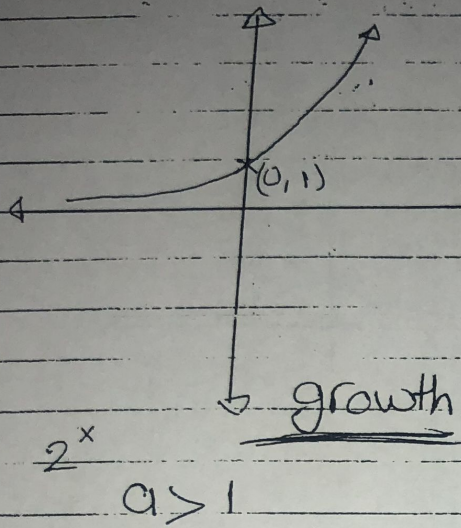
[4]  $f(x) = 4\left(\frac{1}{3}\right)^x$      $a = \frac{1}{3} < 1$   
 $c = 4$



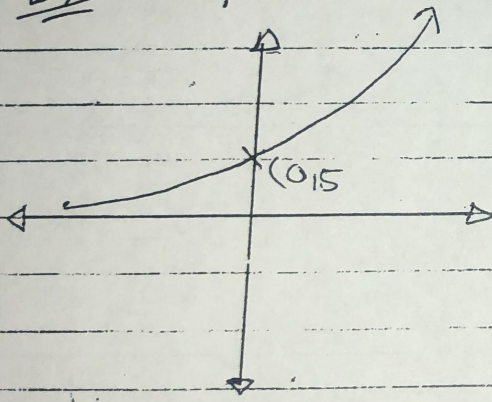
[5]  $f(x) = 3(7)^{-x} = 3\left(\frac{1}{7}\right)^x$      $a = \frac{1}{7} < 1$   
 $c = 3$



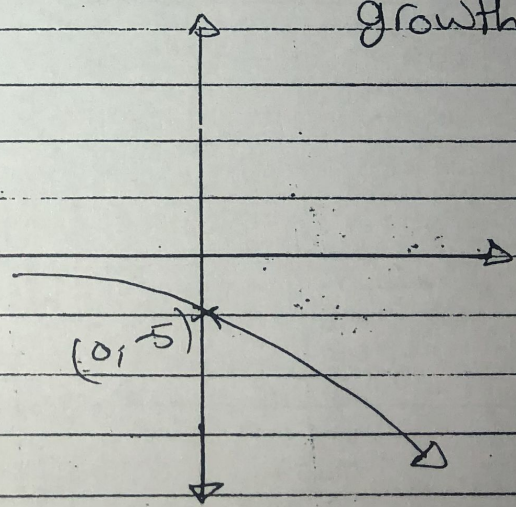
[4]



Ex  $f(x) = 5e^x \Rightarrow$  growth

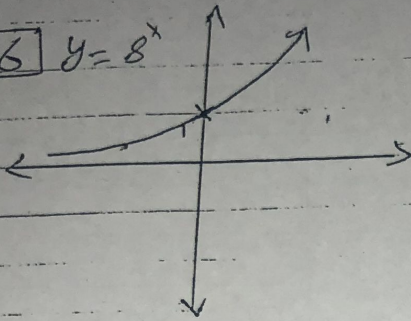


$f(x) = -5e^x \Rightarrow$  ~~growth~~  
 growth

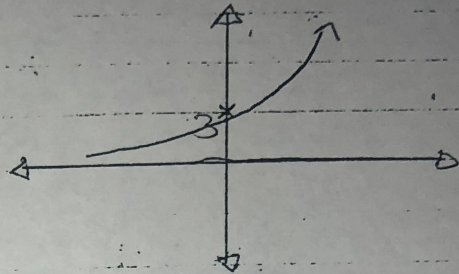


\* حل اللوغاريتمين

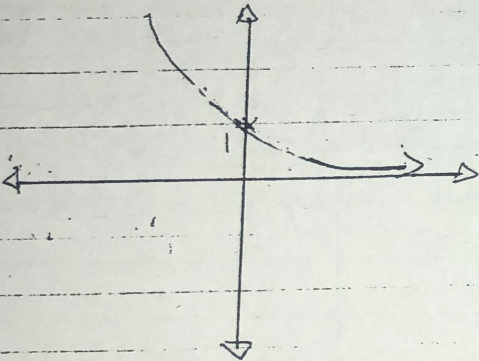
6  $y = 8^x$



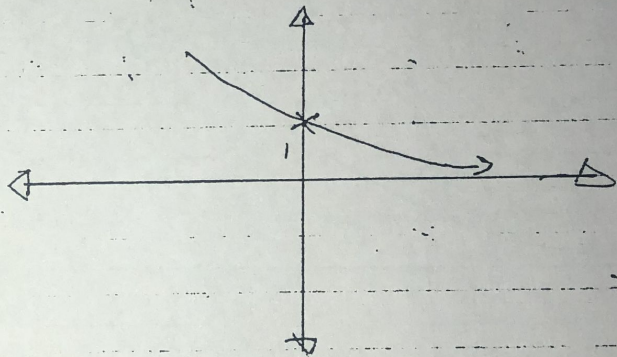
8  $y = 3(2^x)$



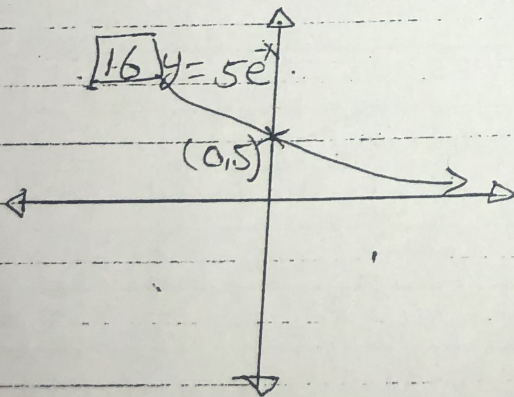
10  $y = (\frac{2}{3})^x$



14  $y = 3^{-x}$



16  $y = 5e^x$



Chapter 5 Done !!

ندی سلطان

You were given this situation because you are strong enough to exceed it... ♡

6