

6/7/2016

§ 4.1 EXPONENTIAL FUNCTIONS

1-3, 7, 17, 21, 25-29, 39, 40

$$\underline{1.} \quad \underline{5}: \quad f(-2) = 5^{-2} = \frac{1}{5^2} = \underline{\underline{\frac{1}{25}}}$$

$$f(0) = 5^0 = \underline{\underline{1}}$$

$$f(2) = 5^2 = \underline{\underline{25}}$$

$$f(6) = 5^6 = \underline{\underline{15,625}}$$

$$\underline{2.} \quad (a) \text{ III} \quad (b) \text{ I}$$

$$(c) \text{ II} \quad (d) \text{ IV}$$

$$\underline{3.} \quad (a) \text{ DOWN}$$

$$(b) \text{ RIGHT}$$

$$\underline{7.} \quad f(x) = 4^x$$

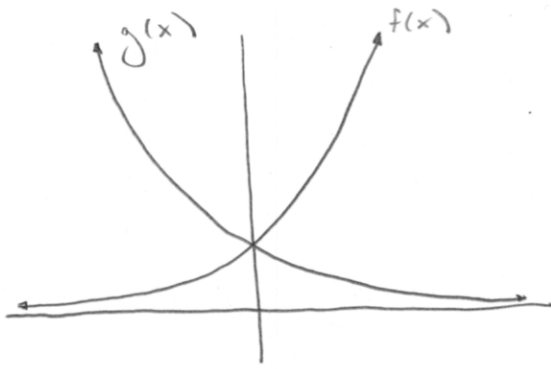
$$f\left(\frac{1}{2}\right) = 4^{\frac{1}{2}} = \sqrt{4} = 2$$

$$f(\sqrt{5}) = 4^{\sqrt{5}} = 22.19458695\dots$$

$$f(-2) = 4^{-2} = \frac{1}{4^2} = \frac{1}{16}$$

$$f(0.3) = 4^{0.3} = 1.5157165665\dots$$

17. $f(x) = 2^x$, $g(x) = 2^{-x}$



21. $f(x) = a^x$

$f(2) = 9 \Rightarrow a^2 = 9$

$a = \pm 3$

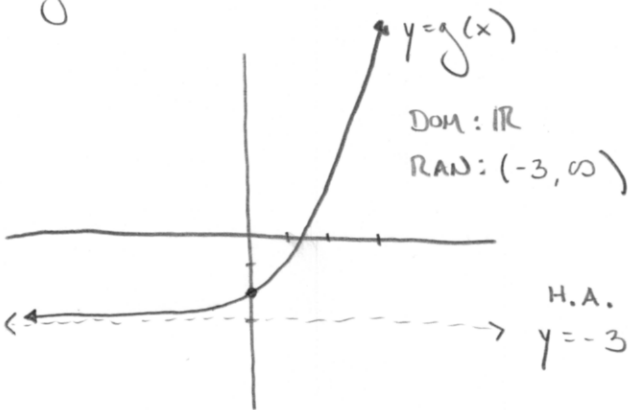
But f is exp. func. so $a > 0$.

$a = 3$

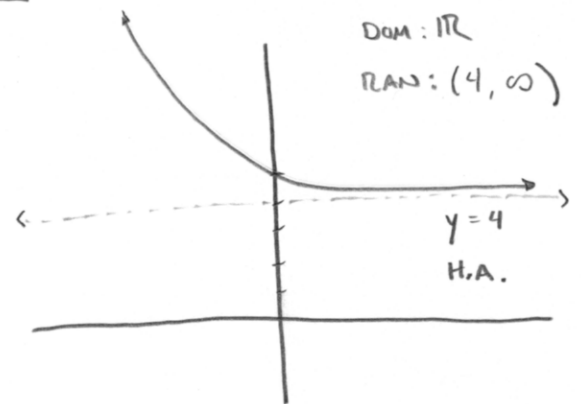
25. II

26. I

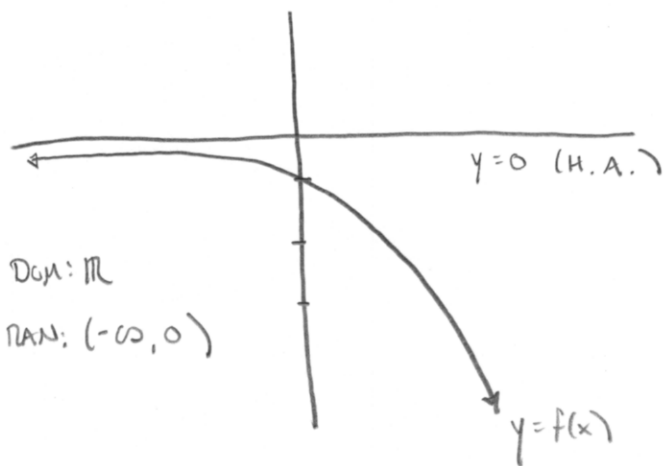
27. $g(x) = 2^x - 3$



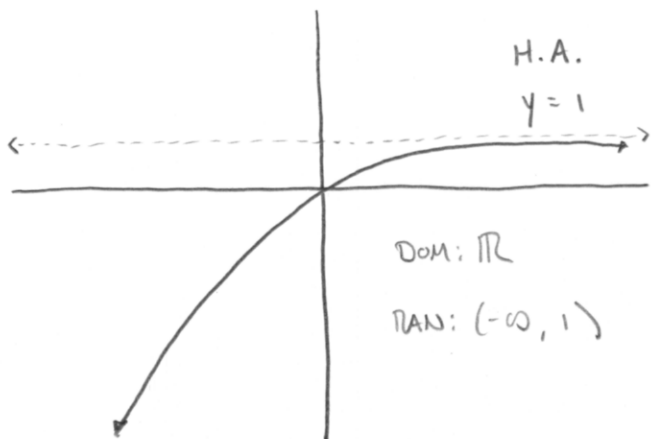
28. $h(x) = 4 + (\frac{1}{2})^x$



29. $f(x) = -3^x$



39. $g(x) = 1 - 3^{-x}$



40. $y = 3 - \left(\frac{1}{5}\right)^x$

