3. (a) $(e^3)^{\frac{4}{3}}$

$= e^{3 \cdot \frac{4}{3}}$

$= e^4$

(b) $(e^{\frac{1}{3}})(e^4)$

$= e^{\frac{1}{3}+4}$

$= e^{\frac{13}{3}}$

(c) $(e^{-4})^{-2}$

$= e^8$

(d) $\frac{e^3}{e^{-4}}$

$= e^3 \cdot e^4$

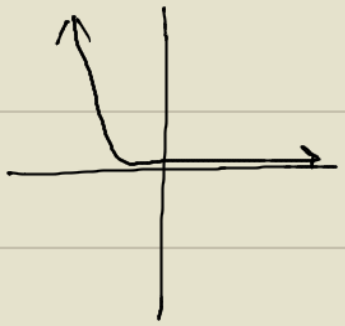
$= e^{3+4}$

$= e^7$

4. $f(x) = e^{3x}$

x	y
-2	$e^{3(-2)} = e^{-6} = \frac{1}{e^6} = .002$
-1	$e^{3(-1)} = e^{-3} = \frac{1}{e^3} = .05$
0	$e^{3(0)} = e^0 = 1$
1	$e^{3(1)} = e^3 = 20$
2	$e^{3(2)} = e^6 = 403$

5. $f(x) = e^{-x-3}$



6. $f(x) = e^x + 2$