

Quiz 14

$$\boxed{\#1} \quad f = x^{2/3} + x^{5/3} \Rightarrow f' = \frac{2}{3}x^{-1/3} + \frac{5}{3}x^{2/3} =$$
$$\frac{1}{3}x^{-1/3}(2 + 5x) = \frac{2 + 5x}{3\sqrt[3]{x}}$$

crit pts: $x = 0$ and $x = -\frac{2}{5}$
($f' \text{ DNE}$) ($f' = 0$)

$$\boxed{\#2} \quad f = x^3 + 3x^2 \Rightarrow f' = 3x^2 + 6x =$$
$$3x(x+2) = 0 \text{ at } x = 0, -2$$

$f(0) = 0$
 $f(-2) = 4$
 $f(-4) = -16$
 $f(1) = 4$

absolute max at $(-2, 4)$ & $(1, 4)$

abs min at $(-4, -16)$