

e) Classify the critical points as relative maxima, minima, horizontal points of inflection.

~~relative~~ relative max: $(-2, f(-2)) = (-2, \frac{13}{3})$.

relative min: $(1, f(1)) = (1, -\frac{1}{6})$.

horizontal point of inflection: No points.

$$\boxed{20} \quad y = -(x-3)^{2/3}$$

a) Find y' .

$$\rightarrow y' = -\frac{2}{3}(x-3)^{-1/3} (1) = \frac{-2}{3(x-3)^{1/3}}$$

b) Find the critical values.

$$y' = 0$$

$$\frac{-2}{3(x-3)^{1/3}} = 0 \rightarrow -2 = 0 \quad \text{X, impossible}$$

y' is undefined (exp = 0) (inflection)

$$\frac{3(x-3)^{1/3}}{3} = \frac{0}{3} \rightarrow (x-3)^{1/3} = 0 \rightarrow (x-3)^{1/3} = 0^3$$

$$x-3 = 0 \rightarrow \boxed{x=3}$$

so the critical values: $x=3$

c) Find the critical points.

$$(3, f(3)) = (3, 0)$$