

4. $f(x) = 5x - 60x^{\frac{1}{3}}$

① $f'(x) = 5 - 60 \cdot \frac{1}{3} x^{-\frac{2}{3}}$

$= 5 - \frac{20}{x^{\frac{2}{3}}}$

$= \frac{5}{1} - \frac{20}{x^{\frac{2}{3}}}$

$= \frac{5x^{\frac{2}{3}}}{x^{\frac{2}{3}}} - \frac{20}{x^{\frac{2}{3}}}$

$f'(x) = \frac{5x^{\frac{2}{3}} - 20}{x^{\frac{2}{3}}}$

②

$5x^{\frac{2}{3}} - 20 = 0$

$x^{\frac{2}{3}} = 0$

$5x^{\frac{2}{3}} = 20$

$x = 0$ C.V.

$\frac{5x^{\frac{2}{3}}}{5} = \frac{20}{5}$

$x^{\frac{2}{3}} = 4$

EVEN
PUT
±

$[x^{\frac{2}{3}}]^{\frac{3}{2}} = \pm 4^{\frac{3}{2}}$

$x = \pm (4^{\frac{1}{2}})^3$

$x = \pm (\sqrt{4})^3$

$x = \pm 2^3$

$x = \pm 8$ C.V.'s

③

	-∞	x = -8	x = 0	x = 8	∞
TEST CASES	x = -9	x = -1	x = 1	x = 9	
PLUG IN f'(x)	$\frac{5x^{\frac{2}{3}} - 20}{x^{\frac{2}{3}}}$				
	REL MAX			REL MIN	

④

max
 $x = -8$

REL
MAX
(-8, 80)

min
 $x = 8$

REL
MIN
(8, -80)