Graph the function $f\left(x\right)=\frac{x}{-2+x^{3}}$

Domain: all x except for x = $\sqrt[3]{2}$

v.a.: x=$\sqrt[3]{2}$

h.a.: y=0

f’(x)= $-\frac{2\left(1+x^{3}\right)}{\left(-2+x^{3}\right)^{2}}$

f’’(x)=$ \frac{6x^{2}\left(4+x^{3}\right)}{\left(-2+x^{3}\right)^{3}}$

Critical points: x=-1

Possible infl. Pts: x=0-, x=-$2^{{2}/{3}}$

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | -$2^{{2}/{3}}$ | -1 | 0 | $$\sqrt[3]{2}$$ |  |
| F’ | **+** | **+** | **-** | **-** | **-** |
| F’’ | **+** | **-** | **-** | **-** | **+** |
| F |  |  |  |  |  |

