Given $f(x) = \frac{x^2}{x^2+7}$, $f'(x) = \frac{14x}{(x^2+7)^2}$, $f''(x) = \frac{-14(3x^2-7)}{(x^2+7)^3}$

Find values where $f(x)$ has local max or mins
Where $f(x)$ is increasing or decreasing
Where $f(x)$ is concave up or concave down.

$f'(x) = 0$ when $x = 0$
$f'(x) > 0$ when $x > 0$
$f'(x) < 0$ when $x < 0$

$f''(x) = 0$ when $x = -\sqrt{\frac{7}{3}}$ and $x = \sqrt{\frac{7}{3}}$
$f''(x) > 0$ when $-\sqrt{\frac{7}{3}} < x < \sqrt{\frac{7}{3}}$
$f''(x) < 0$ when $x < -\sqrt{\frac{7}{3}}$ and when $x > \sqrt{\frac{7}{3}}$

So $f(x)$ has a min when $x = 0$
$f(x)$ is concave up $\left(-\sqrt{\frac{7}{3}}, \sqrt{\frac{7}{3}}\right)$
$f(x)$ is concave down $\left(-\infty, -\sqrt{\frac{7}{3}}\right) \cup \left(\sqrt{\frac{7}{3}}, \infty\right)$
$f(x)$ is increasing $(0, \infty)$
$f(x)$ is decreasing $(-\infty, 0)$.