7.4 1)

α) $\lim\limits_{x\to-\infty}\dfrac{2x^2+7x-2}{6x^3-4x+3}=\lim\limits_{x\to-\infty}\dfrac{\cancel{x^2}\left(2+\frac{7}{x}-\frac{2}{x^2}\right)}{\cancel{x^3}\left(6-\frac{4}{x^2}+\frac{3}{x^3}\right)}=\dfrac{2+0-0}{(-\infty)(6-0+0)}=\dfrac{2}{-\infty}=\boxed{0}$

β) $\lim\limits_{x\to+\infty}\dfrac{-3x^2-8x+4}{5x^4-2x^3+x-1}=\lim\limits_{x\to-\infty}\dfrac{\cancel{x^2}\left(-3-\frac{8}{x}+\frac{4}{x^2}\right)}{\cancel{x^4}^2\left(5-\frac{2}{x}+\frac{1}{x^3}-\frac{1}{x^4}\right)}=$

$\dfrac{-3-0+0}{(-\infty)(5-0+0-0)}=\dfrac{-3}{-\infty}=\boxed{0}$

7.4 2)

$\lim\limits_{x\to-\infty}\dfrac{-5x^3+3x^2}{x^5+1}=\lim\limits_{x\to-\infty}\dfrac{\cancel{x^3}\left(-5+\frac{3}{x}\right)}{\cancel{x^5}^2\left(1+\frac{1}{x^5}\right)}=\dfrac{-5+0}{(+\infty)(1+0)}=\dfrac{-5}{+\infty}=\boxed{0}$

7.4 3)

$\lim\limits_{x\to+\infty}\dfrac{-5x+1}{x^4+8x-1}=\lim\limits_{x\to+\infty}\dfrac{\cancel{x}\left(-5+\frac{1}{x}\right)}{\cancel{x^4}^3\left(1+\frac{8}{x}-\frac{1}{x^4}\right)}=\dfrac{-5+0}{(+\infty)(1+0-0)}=\dfrac{-5}{+\infty}=\boxed{0}$

7.4 4)

$\lim\limits_{x\to-\infty}\dfrac{3x^3+x^2-2x+5}{x^4-x^2-x+1}=\lim\limits_{x\to-\infty}\dfrac{\cancel{x^3}\left(3+\frac{1}{x}-\frac{2}{x^2}+\frac{5}{x^3}\right)}{\cancel{x^4}\left(1-\frac{1}{x^2}-\frac{1}{x^3}+\frac{1}{x^4}\right)}=\dfrac{3+0-0+0}{(-\infty)(1-0-0+0)}=\dfrac{3}{-\infty}=0$

7.4 5)

$\lim\limits_{x\to+\infty}\dfrac{x^2-4x+5}{x^3+7x^2-5x+2}=\lim\limits_{x\to+\infty}\dfrac{\cancel{x^2}\left(1-\frac{4}{x}+\frac{5}{x^2}\right)}{\cancel{x^3}\left(1+\frac{7}{x}-\frac{5}{x^2}+\frac{2}{x^3}\right)}=\dfrac{1-0+0}{(+\infty)(1+0-0+0)}=\dfrac{1}{+\infty}=0$