a) $\dfrac{4n}{2n-1} = \dfrac{4n}{2n-1} \cdot \dfrac{1/n}{1/n}$

$= \dfrac{4}{2-1/n} \longrightarrow \dfrac{4}{2-0} = 2$

Ya que $(1/n) \longrightarrow 0$,

$\left(2-1/n\right) \longrightarrow 2$,

$\left(\dfrac{4}{2-1/n}\right) \longrightarrow \dfrac{4}{2} = 2$

b) $\dfrac{2n^2}{1-n^2} = \dfrac{2n^2}{1-n^2} \cdot \dfrac{1/n^2}{1/n^2}$

$= \dfrac{2}{1/n^2-1} \longrightarrow \dfrac{2}{0-1} = -2$

c) $\frac{5}{n^3} = 5 \cdot \left(\frac{1}{n}\right)^3 \rightarrow 5 \cdot 0^3 = 0$

d) $\frac{3n + 2n \cdot (-1)^n}{n} = 3 + 2 \cdot (-1)^n$

$$= \begin{cases} 5 & \text{si } n \text{ est pair} \\ 3 & \text{sinon} \end{cases}$$

La suite diverge.

e) $\frac{(2n-1)^4}{(1-n^2)^2} \cdot \frac{1/n^4}{1/n^4} =$

$$\frac{(2n-1)^4/n^4}{(1-n^2)^2/(n^2)^2} = \frac{\left[(2n-1)/n\right]^4}{\left[(1-n^2)/n^2\right]^2}$$

$$= \frac{(2 - 1/n)^4}{(1/n^2 - 1)^2} \longrightarrow \frac{(2-0)^4}{(0-1)^2} = 16$$

f) $$\frac{7n^2}{\sqrt{n^4-5}} \cdot \frac{1/n^2}{1/n^2} =$$

$$\frac{7}{\sqrt{n^4-5} \,/\, \sqrt{n^4}} = \frac{7}{\left((n^4-5)/n^4\right)^{1/2}}$$

$$= \frac{7}{(1 - 5/n^4)^{1/2}} \longrightarrow \frac{7}{(1-0)^{1/2}} = 7$$