Calcular los siguientes límites

1. $\lim_{x\to -1}\dfrac{6x-12}{x^2-3x-4}$
2. $\lim_{x\to -4}\dfrac{3x^3+12x^2-x-4}{x^3+7x^2+14x+8}$
3. $\lim_{x\to 1}\dfrac{x}{(x-1)^2}$
4. $\lim_{x\to 0}\dfrac{x^3-8x^2+7x}{x^2-x}$
5. $\lim_{x\to 0}\dfrac{\sqrt{4+x}-\sqrt{4-x}}{4x}$
6. $\lim_{x\to 0}\dfrac{1-\sqrt{1-x^2}}{x^2}$
7. $\lim_{x\to 1}\dfrac{\sqrt{2x-1}-1}{x^2-1}$
8. $\lim_{x\to 0}\dfrac{x^3-9x^2+15x+25}{x^3-5x^2+2x-10}$
9. $\lim_{x\to 1}\dfrac{\sqrt{3x^2+2x+1}}{2x+7}$
10. $\lim_{x\to +\infty}\left(\sqrt{9x^2+3x}-3x\right)$
11. $\lim_{x\to +\infty}\left(\dfrac{x^2-1}{x}-\dfrac{1+2x^2}{2x-1}\right)$
12. $\lim_{x\to +\infty}\left(2x-\sqrt{1+4x}\right)$
13. $\lim_{x\to +\infty}\left(\sqrt{x^2-2x+1}-\sqrt{x^2-2x+4}\right)$
14. $\lim_{x\to +\infty}\left(\dfrac{3x^2-4x}{x+2}-3x\right)$
15. $\lim_{x\to +\infty}\left(x\left(\sqrt{\dfrac{x-1}{x+1}}-1\right)\right)$
16. $\lim_{x\to -1^-}\left(x\left(\sqrt{\dfrac{x-1}{x+1}}-1\right)\right)$
17. $\lim_{x\to +\infty}\sqrt{x}\left(\sqrt{x+1}-\sqrt{x-1}\right)$
18. $\lim_{x\to +\infty}\dfrac{\sqrt{2x+1}-\sqrt{2x-1}}{\sqrt{x+1}-\sqrt{x-1}}$

Soluciones

1. $\begin{cases}-\infty & \text{si} \quad x\to -1^-\\ +\infty & \text{si} \quad x\to -1^+\end{cases}$
2. $\dfrac{47}{6}$
3. $\begin{cases}+\infty & \text{si} \quad x\to 1^-\\ +\infty & \text{si} \quad x\to 1^+\end{cases}=+\infty$
4. -7
5. $\dfrac{1}{8}$
6. $\dfrac{1}{2}$
7. $\dfrac{1}{2}$
8. $-\dfrac{5}{2}$
9. $\dfrac{\sqrt{6}}{9}$
10. $\dfrac{1}{2}$
11. $-\dfrac{1}{2}$
12. $+\infty$
13. 0
14. -10
15. -1
16. $-\infty$
17. 1
18. $\dfrac{\sqrt{2}}{2}$