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1. Aplicando directamente las propiedades de los límites; calcular los siguientes límites si es que existen.

$$1. \lim_{x \rightarrow 3} x^2$$

$$= \lim_{x \rightarrow 3} (x+6) \cdot (x-1)$$

$$= \lim_{x \rightarrow 3} x + 6$$

$$= 3 + 6 = 9$$

$$2. \lim_{x \rightarrow 0} (4x + 5) = 4(0) + 5 = 5$$

$$3. \lim_{x \rightarrow 2} (5x - 2) = 5(2) - 2 = 10 - 2 = 8$$

$$4. \lim_{x \rightarrow 4} 6 = 6 - \text{Límite Constante}$$

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5.- $\lim_{x \rightarrow 4} \frac{x}{x+4}$

$\frac{1}{2} = 0.5$



6.- $\lim_{x \rightarrow 2} \frac{2x^2 + x - 1}{4x - 2} = \frac{2(2)^2 + (2) - 1}{4(2) - 2} = \frac{8 + 2 - 1}{8 - 2} = \frac{9}{6} = 1.5$



7.- $\lim_{x \rightarrow 2} \frac{(x^2 - 4)}{(x - 2)} = \frac{(2)^2 - 4}{2 - 2} = \frac{0}{0}$

$= \lim_{x \rightarrow 2} \frac{(x + 2)(x - 2)}{(x - 2)}$

$= 2 + 2 = 4$



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$$8 \quad \lim_{x \rightarrow -1} 5x = 5(-1) = \underline{-5}$$

$$9. \quad \lim_{x \rightarrow 2} 3x^2 = 3(-2)^2 = 12$$

$$10. \quad \lim_{x \rightarrow 2} (4x^2 - 8x + 5) = 4(2)^2 - 8(2) + 5 = 16 - 16 + 5 = \underline{5}$$

$$11. \quad \lim_{x \rightarrow 3} \frac{x+1}{2x+3} = \frac{(3+1)}{2(3)+3} = \frac{4}{9}$$

$$12. \quad \lim_{x \rightarrow 2} \sqrt{3x^2 + 2} = \sqrt{3(2)^2 + 2} = \sqrt{12 + 2} = \underline{4}$$

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 11 Aplicar el artificio algebraico del Caso II
 para resolver los siguientes límites que presen-
 tan la forma indeterminada de $(\frac{0}{0})$

$$1. \lim_{x \rightarrow 0} \frac{8x^2 - 2x}{2x} \equiv \frac{8x^2 - 2x}{2x} = \frac{8(0)^2 - 2(0)}{2(0)} = \frac{0}{0}$$

$$2. \lim_{x \rightarrow -1} \frac{x^2 - 1}{x + 1} = \frac{0}{0}$$

$$3. \lim_{x \rightarrow 0} \frac{5x}{x} = \frac{0}{0}$$

$$4. \lim_{x \rightarrow -5} \frac{x+5}{x^2-25} = \frac{(-5)+5}{(-5)^2-25} = \frac{0}{25-25} = \frac{0}{0}$$



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$$7. \lim_{x \rightarrow 3} \frac{x^2 + 4x - 21}{x - 3} = \frac{(3)^2 + 4(3) - 21}{3 - 3}$$

$$\frac{9 + 12 - 21}{0} = \frac{0}{0}$$

$$8. \lim_{x \rightarrow -4} \frac{x^2 + 5x + 4}{x + 4} = \frac{(-4)^2 + 5(-4) + 4}{-4 + 4} = \frac{16 - 20 + 4}{0} = \frac{0}{0}$$

$$9. \lim_{x \rightarrow 2} \frac{x^2 - 8x + 12}{x - 2} = \frac{x^2 - 8x + 12}{x - 2} = \frac{(2)^2 - 8(2) + 12}{2 - 2}$$

$$\frac{4 - 16 + 12}{0} = \frac{0}{0}$$

$$10. \lim_{x \rightarrow -1} \frac{x^2 + 1}{x + 1} = \frac{(-1)^2 + 1}{-1 + 1} = \frac{-1 + 1}{-1 + 1} = \frac{0}{0}$$