

Evaluate the following limits.

$$1. \quad \lim_{x \rightarrow -4} \frac{3x^2 + 10x - 8}{x^2 + 3x - 4}$$

$$2. \quad \lim_{h \rightarrow 3} \frac{h^2 - h - 6}{\sqrt{5h - 6} - \sqrt{h + 6}}$$

$$3. \quad \lim_{x \rightarrow -1} \left[\frac{7}{x^2 + 3x + 2} - \frac{x + 8}{x - 1} \right]$$

$$4. \quad \lim_{t \rightarrow -4} \frac{2t^2 + 7t - 4}{t^3 + 6t^2 + 9t + 4}$$

$$5. \quad \lim_{x \rightarrow -1} \frac{\frac{x}{x+3} + \frac{1}{2}}{x+1}$$

$$6. \quad \lim_{x \rightarrow 2} \frac{\sqrt{x} - \sqrt{2}}{\sqrt{x+2} - 2}$$

$$7. \quad \lim_{x \rightarrow 0} \frac{\sqrt{x+1} - 1}{2 - \sqrt{4-x}}$$

8. For what values of c , will

$$\lim_{x \rightarrow c} \frac{x^3 - 2x^2 - 5x + 6}{x - c} \text{ exist?}$$

$$93. \quad \lim_{x \rightarrow 4} \frac{x^2 - 16}{x - 4}$$

$$98. \quad \lim_{h \rightarrow 0} \frac{\frac{1}{a+h} - \frac{1}{a}}{h}, \text{ where } a \text{ is a real-valued constant}$$

$$94. \quad \lim_{x \rightarrow 2} \frac{x - 2}{x^2 - 2x}$$

$$99. \quad \lim_{\theta \rightarrow \pi} \frac{\sin \theta}{\tan \theta}$$

$$95. \quad \lim_{x \rightarrow 6} \frac{3x - 18}{2x - 12}$$

$$100. \quad \lim_{x \rightarrow 1} \frac{x^3 - 1}{x^2 - 1}$$

$$96. \quad \lim_{x \rightarrow 0} \frac{(1+h)^2 - 1}{h}$$

$$101. \quad \lim_{x \rightarrow 1/2} \frac{2x^2 + 3x - 2}{2x - 1}$$

$$97. \quad \lim_{x \rightarrow 9} \frac{t - 9}{9\sqrt{t} - 3}$$

$$102. \quad \lim_{x \rightarrow -3} \frac{\sqrt{x+4} - 1}{x+3}$$