

Find the following limits.

1. $\lim_{x \rightarrow -2} \frac{x^2 + 5x + 6}{x^2 - 4}$

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

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

4. $\lim_{h \rightarrow 0} \frac{\sqrt{x+h} - \sqrt{x}}{h}$

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

$$6. \lim_{h \rightarrow 0} \frac{\frac{1}{4+h} - \frac{1}{4}}{h}$$

$$7. \lim_{x \rightarrow 0} \frac{\sin 2x}{3x}$$

$$8. \lim_{x \rightarrow 0} \frac{1 - \cos^2 x}{x^2}$$

$$9. \lim_{x \rightarrow \infty} (\sqrt{x^2 + 2x} - x)$$

$$10. \lim_{x \rightarrow \infty} (x - \sqrt{x^2 - 3x + 1})$$