

## PRACTICE PROBLEMS ON LIMITS

Compute the following limits.

$$(1) \lim_{x \rightarrow \infty} \frac{\sqrt{x^2 + 5}}{x + 5}$$

$$(2) \lim_{x \rightarrow \infty} \frac{\sqrt{x^2 + 5x}}{x^2 + 5}$$

$$(3) \lim_{x \rightarrow 4} \frac{x^2 - 5x + 4}{x^2 - 16}$$

$$(4) \lim_{x \rightarrow \infty} \frac{\sin x}{x}$$

$$(5) \lim_{x \rightarrow 0} \frac{\cos x}{x}$$

$$(6) \lim_{x \rightarrow \infty} (3^x - 2^x)$$

$$(7) \lim_{x \rightarrow 0} \frac{e^x - 1}{x}$$

$$(8) \lim_{x \rightarrow -1^-} \frac{x}{x + 1}$$

$$(9) \lim_{x \rightarrow \infty} \frac{\sqrt{x + 1/x}}{\sqrt{5x + 5/x}}$$