

Find the limit.

$$(1) \lim_{t \rightarrow +\infty} \frac{2t + 1}{5t - 2}$$

$$(2) \lim_{x \rightarrow -\infty} \frac{2x + 7}{4 - 5x}$$

$$(3) \lim_{x \rightarrow +\infty} \frac{7x^2 - 2x + 1}{3x^2 + 8x + 5}$$

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

$$(5) \lim_{y \rightarrow +\infty} \frac{2y^2 - 3y}{y + 1}$$

$$(6) \lim_{x \rightarrow -\infty} \frac{4x^3 + 2x^2 - 5}{8x^3 + x + 2}$$

$$(7) \lim_{y \rightarrow +\infty} \frac{2y^3 - 4}{5y + 3}$$

$$(8) \lim_{x \rightarrow -\infty} 3x + \frac{1}{x^2}$$

$$(9) \lim_{x \rightarrow +\infty} \frac{\sqrt{x^2 + 4}}{x + 4}$$

$$(10) \lim_{w \rightarrow -\infty} \frac{\sqrt{w^2 - 2w + 3}}{w + 5}$$

Answer Key

(1) $\frac{2}{5}$

(2) $-\frac{2}{5}$

(3) $\frac{7}{3}$

(4) 0

(5) $+\infty$

(6) $\frac{1}{2}$

(7) $+\infty$

(8) $-\infty$

(9) 1

(10) -1