

4.10

4.17

$$105 \quad \begin{cases} x^2 + 11 > 2 \\ 4 - x > 1 \\ -3x < 0 \\ x^2 + 2 > 3x \end{cases} \quad [0 < x < 1, 2 < x < 3]$$

$$106 \quad \begin{cases} x^2 - 7x + 12 > 0 \\ 4x^2 > 0 \\ \frac{3}{x} > 0 \\ 5 - x > 0 \end{cases} \quad [0 < x < 3, 4 < x < 5]$$

$$107 \quad \begin{cases} 8x^3 > 0 \\ 5 - \frac{1}{2}x > 0 \\ \frac{1}{x+3} > 0 \\ x - 4 < x^2 \end{cases} \quad [0 < x < 10]$$

$$108 \quad \begin{cases} 2 - x^2 > 0 \\ 3x - 2x^2 < 0 \\ 4x^2 - 1 > 0 \\ \frac{5}{x^2 + 4} > 0 \end{cases} \quad \left[-\sqrt{2} < x < -\frac{1}{2}\right]$$

$$109 \quad \begin{cases} \frac{5}{7-x} \geq 0 \\ (x-1)^2 > 0 \\ (x+3)^3 \geq 0 \\ 3x - x^2 < 0 \end{cases} \quad [-3 \leq x < 0, 3 < x < 7]$$

$$110 \quad \begin{cases} \frac{x-5}{x^2+1} < 0 \\ 3x-5 < 3x \\ 9-x > 2 \\ (x-2)^3 > 1 \end{cases} \quad [3 < x < 5]$$

$$111 \quad \begin{cases} \frac{2}{x-3} < 0 \\ \frac{x^2-9}{x+12} \geq 0 \end{cases} \quad [-12 < x \leq -3]$$

$$112 \quad \begin{cases} \frac{x-5}{x+1} > 1 \\ \frac{25-x^2}{(x+4)^2} \geq 0 \end{cases} \quad [-5 \leq x < -4, -4 < x < -1]$$

$$113 \quad \begin{cases} \frac{x^5-x}{x^4-13x^2+36} > 0 \\ \frac{2}{x} < 0 \end{cases} \quad [-3 < x < -2, -1 < x < 0]$$