Desigualdades.

[100]

Desigualdades del tipo $|\,ax+b\,| \geq M$

Resolver las siguientes desigualdades

(1) $|\,7x-2\,| \geq 5$

(2) $\left|\,\frac{5}{9}x-3\,\right| \geq 0$

(3) $|\,-x\,|+2>8$

(4) $|\,3x-1\,|+x>4x-1$

(5) $\left|\,\frac{3x-4}{5}\,\right| \geq 6+2x$

(6) $7<\left|\,4-\frac{3}{2}x\,\right|$

(7) $6x+1 \leq \left|\,-x+\frac{6}{5}\,\right|$

(8) $\left|\,\frac{7x-8}{4}\,\right| \geq \frac{-5x+2}{6}$

(9) $\left|\,\frac{3x-2}{5}\,\right| -7x \geq 6-x$

(10) $\frac{|\,-x+2\,|-1}{2} \geq 3x$

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Respuestas

Desigualdades del tipo $|\,ax+b\,| \geq M$

Resolver las siguientes desigualdades

(1) $|\,7x-2\,| \geq 5$

$$CS = \left(-\infty, -\frac{3}{7}\right) \cup [1, +\infty) = \mathbb{R} - \left(-\frac{3}{7}, 1\right)$$

(2) $\left|\,\frac{5}{9}x - 3\,\right| \geq 0$

$$CS = \mathbb{R}$$

(3) $|\,-x\,| + 2 > 8$

$$CS = (-\infty, -6) \cup (6, +\infty) = \mathbb{R} - [-6, 6]$$

(4) $|\,3x-1\,| + x > 4x - 1$

$$CS = \left(-\infty, \frac{1}{3}\right)$$

(5) $\left|\,\frac{3x-4}{5}\,\right| \geq 6 + 2x$

$$CS = (-\infty, -2]$$

(6) $7 < \left|\,4 - \frac{3}{2}x\,\right|$

$$CS = (-\infty, -2) \cup \left(\frac{22}{3}, \infty\right)) = \mathbb{R} - \left[-2, \frac{22}{3}\right]$$

(7) $6x + 1 \leq \left|\,-x + \frac{6}{5}\,\right|$

$$CS = \left(-\infty, \frac{1}{35}\right]$$

(8) $\left|\,\frac{7x-8}{4}\,\right| \geq \frac{-5x+2}{6}$

$$CS = \mathbb{R}$$

(9) $\left|\,\frac{3x-2}{5}\,\right| - 7x \geq 6 - x$

$$CS = \left(-\infty, \frac{22}{33}\right]$$

(10) $\frac{|\,-x+2\,| - 1}{2} \geq 3x$

$$CS = \left(-\infty, \frac{1}{7}\right]$$