[07-09-09B-T10-Problems]

Absolute value and linear inequalities

■ **Answer the following using interval notation.**
A graph is <u>not</u> required, but may be helpful to you.

[1] $|x-5| \leq 9$

[2] $|x-5| > 9$

[3] $|2x-3| \leq 5x+3$

[4] $|-2||x+4| \leq 5x+3$

[5] $|3x+10| > 3$

[6] $|4x+4| \leq 4$

[7] $|3x+8| \geq 9$

[8] $\frac{|x-2|}{|-5|} < 1$

[9] $|x-\frac{2}{3}| < 6$

[10] $|x-\frac{2}{3}| \geq \frac{5}{6}$

[07-09-09B-T10-Answers]

Absolute value and linear inequalities

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[1] $[-4, 14]$

[2] $(-\infty, -4) \bigcup (14, \infty +)$

[3] $[0, \infty +)$

[4] $[\frac{5}{3}, \infty +)$

[5] $(-\infty, -\frac{13}{3}) \bigcup (-\frac{7}{3}, \infty +)$

[6] $[-2, 0]$

[7] $(-\infty, -\frac{17}{3}) \bigcup (\frac{1}{3}, \infty +)$

[8] $(-3, 7)$

[9] $(-\frac{16}{3}, \frac{20}{3})$

[10] $(-\infty, \frac{-1}{6}) \bigcup (\frac{3}{2}, \infty +)$