

## 12-05-15-T7 Inequalities

Solve each pair of simultaneous inequalities for the unknown.

1)  $2 + 3x \leq -x + 2 < 2x + 5$

2)  $2 - 5x \leq 5x + 2 < -2 + 5x$

3)  $-1 + 2k > -5 + 4k$  and  $-3k - 1 \leq -k - 3$

4)  $a + 5 \leq 5a + 1$  and  $1 + 2a \geq 3a - 3$

5)  $-\frac{5}{2}p - \frac{8}{3} < \frac{5}{3}p + \frac{5}{2}$  and  $2p - \frac{3}{2} \leq \frac{1}{2}p + \frac{1}{3}$

6)  $2 - \frac{8}{3}n \leq -\frac{3}{2}n + \frac{5}{3} < -2n + \frac{7}{3}$

7)  $2 + \frac{2}{3}x \leq 2x + \frac{1}{3}$  and  $-\frac{1}{3}x + \frac{1}{3} \geq \frac{7}{3}x + \frac{2}{3}$

8)  $\frac{3}{2}m - \frac{3}{2} \leq 1 - \frac{7}{3}m \leq \frac{1}{2}m + \frac{1}{3}$

## Answers to 12-05-15-T7 Inequalities

1)  $-1 < x \leq 0$

5)  $-\frac{31}{25} < p \leq \frac{11}{9}$

2) No solution.

6)  $\frac{2}{7} \leq n < \frac{4}{3}$

3)  $1 \leq k < 2$

7) No solution.

4)  $1 \leq a \leq 4$

8)  $\frac{4}{17} \leq m \leq \frac{15}{23}$