

## 12-05-10-T7 Inequalities

Solve each pair of simultaneous inequalities for the unknown.

1)  $4x + 4 < -4 + 2x < 4x - 4$

2)  $3v - 1 < 2v - 2 \leq 4v + 4$

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

4)  $4n - 2 < 5n + 4 < 3n + 2$

5)  $-4 - 3k < 5k - 4 < -1 + 2k$

6)  $x - 2 < 3x + 2 < 2x + 2$

7)  $-2p - \frac{8}{5} < -\frac{3}{2}p + \frac{5}{2} \leq -5p - \frac{1}{2}$

8)  $b - \frac{8}{5} < 2 + \frac{8}{5}b < \frac{4}{3}b + \frac{3}{5}$

9)  $\frac{12}{5}k - \frac{3}{2} \geq k + \frac{1}{4} > -2 + \frac{3}{2}k$

10)  $5 - \frac{7}{5}x < \frac{8}{5}x - \frac{7}{3} \leq -\frac{1}{2}x + \frac{3}{2}$

11)  $-2 + \frac{1}{2}v \leq -\frac{5}{4}v + \frac{11}{4} \leq \frac{5}{4}v + \frac{1}{4}$

12)  $4x + \frac{6}{5} \leq -4 + \frac{9}{4}x < 3x + \frac{2}{3}$

## Answers to 12-05-10-T7 Inequalities

1) No solution.

5)  $0 < k < 1$

9)  $\frac{5}{4} \leq k < \frac{9}{2}$

2)  $-3 \leq v < -1$

6)  $-2 < x < 0$

10) No solution.

3)  $-5 < a \leq 0$

7)  $-\frac{41}{5} < p \leq -\frac{6}{7}$

11)  $1 \leq v \leq \frac{19}{7}$

4)  $-6 < n < -1$

8)  $-6 < b < -\frac{21}{4}$

12)  $-\frac{56}{9} < x \leq -\frac{104}{35}$