14-05-14-T7

Solve each compound inequality. Answer must include inequality, graph, interval (see example in your class notes).

1) $2-\frac{3}{2}x>\frac{1}{3}x+\frac{1}{2}$ and $-2+\frac{4}{3}x\le\frac{5}{2}x-\frac{5}{2}$

2) $2+\frac{4}{3}x\ge -x+\frac{3}{2}>-\frac{3}{2}x+\frac{1}{2}$

3) $-\frac{1}{2}x+\frac{2}{3}\ge\frac{1}{3}x-\frac{2}{3}$ and $-3-\frac{5}{3}x\le\frac{1}{3}x+\frac{1}{3}$

4) $2+\frac{1}{2}n\ge -n-\frac{3}{2}$ and $n+\frac{1}{3}\le -3n-\frac{7}{2}$

5) $-\frac{3}{2}n+\frac{4}{3}>\frac{1}{3}n-\frac{5}{2}\ge -\frac{3}{2}n+\frac{1}{3}$

6) $\frac{1}{2}n+\frac{3}{2}>\frac{5}{3}n+\frac{5}{3}\ge\frac{4}{3}n+\frac{1}{3}$

7) $\frac{2}{3}p+\frac{1}{2}>-2p+\frac{2}{3}$ and $-2p+\frac{4}{3}<-\frac{5}{2}p-\frac{3}{2}$

8) $2m-\frac{2}{3}<\frac{8}{3}m+\frac{2}{3}\le -\frac{3}{2}m+\frac{5}{2}$

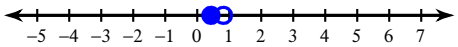
9) $2+\frac{3}{2}k\ge -2+\frac{1}{3}k>2k-\frac{5}{3}$

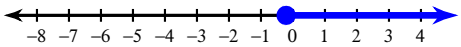
10) $\frac{1}{3}x+\frac{3}{2}>1+\frac{3}{2}x$ and $2x+\frac{2}{3}\ge -1-\frac{7}{3}x$

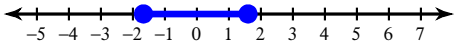
11) $3-\frac{1}{3}n>\frac{5}{3}n-\frac{1}{3}$ and $n+\frac{5}{3}\ge -\frac{10}{3}n+\frac{5}{3}$

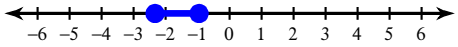
12) $-1-\frac{3}{2}x\ge -\frac{4}{3}x-\frac{5}{2}$ and $\frac{2}{3}x+\frac{5}{2}>\frac{1}{2}x+\frac{8}{3}$

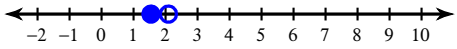
Answers to 14-05-14-T7

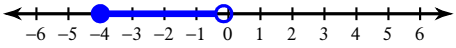
1) $\frac{3}{7} \le x < \frac{9}{11}$: 

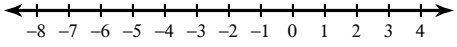
2) $x \ge -\frac{3}{14}$: 

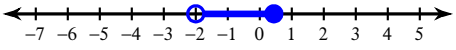
3) $-\frac{5}{3} \le x \le \frac{8}{5}$: 

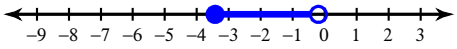
4) $-\frac{7}{3} \le n \le -\frac{23}{24}$: 

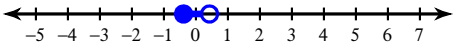
5) $\frac{17}{11} \le n < \frac{23}{11}$: 

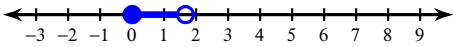
6) $-4 \le n < -\frac{1}{7}$: 

7) No solution. : 

8) $-2 < m \le \frac{11}{25}$: 

9) $-\frac{24}{7} \le k < -\frac{1}{5}$: 

10) $-\frac{5}{13} \le x < \frac{3}{7}$: 

11) $0 \le n < \frac{5}{3}$: 

12) $1 < x \le 9$: