14-05-21-T7

Find all solutions.

1) $-2+\frac{4}{3}r<\frac{3}{2}r-\frac{10}{3}$ or $\frac{1}{4}r-\frac{3}{2}\geq\frac{1}{2}r-\frac{1}{4}$

2) $-p-\frac{7}{2}\leq -2p+\frac{7}{4}$ or $-\frac{10}{3}p-\frac{5}{4}<-\frac{2}{3}p+\frac{5}{3}$

3) $-4+\frac{3}{2}x>x+\frac{7}{4}$ or $-2x+\frac{3}{2}\geq -2-\frac{1}{2}x$

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

5) $\frac{5}{4}a-\frac{1}{2}>-a-\frac{13}{4}$ and $-\frac{7}{4}a+\frac{3}{4}\geq\frac{5}{4}a+\frac{1}{4}$

6) $-\frac{1}{2}x-\frac{5}{2}>\frac{7}{4}x+\frac{1}{2}$ or $\frac{3}{2}x-\frac{4}{3}\geq x+\frac{1}{2}$

7) $-\frac{4}{3}x+\frac{7}{4}\geq\frac{5}{3}x-\frac{5}{4}$ and $\frac{1}{3}x-\frac{10}{3}\leq\frac{5}{4}x-\frac{3}{2}$

8) $\frac{2}{3}m+\frac{7}{4}\leq -1+\frac{3}{4}m$ or $\frac{5}{2}m+\frac{1}{2}\leq 2+\frac{5}{4}m$

9) $\frac{1}{4}n+\frac{7}{3}<-\frac{15}{4}n+\frac{5}{2}$ and $2+\frac{1}{3}n>\frac{1}{4}n+\frac{3}{4}$

10) $-\frac{5}{4}m-\frac{11}{4}<\frac{5}{4}m-\frac{9}{4}$ or $-m+\frac{1}{2}<-1-\frac{11}{4}m$

11) $2k+\frac{5}{3}\leq-\frac{10}{3}k+\frac{5}{3}$ or $-1-\frac{4}{3}k\leq k-\frac{4}{3}$

12) $\frac{11}{4}m+\frac{5}{3}\leq\frac{4}{3}m+\frac{1}{3}\leq-\frac{4}{3}m-\frac{7}{4}$

Answers to 14-05-21-T7

1) $r > 8$ or $r \leq -5$

2) { All real numbers. }

3) $x > \frac{23}{2}$ or $x \leq \frac{7}{3}$

4) No solution.

5) $-\frac{11}{9} < a \leq \frac{1}{6}$

6) $x < -\frac{4}{3}$ or $x \geq \frac{11}{3}$

7) $-2 \leq x \leq 1$

8) $m \geq 33$ or $m \leq \frac{6}{5}$

9) $-15 < n < \frac{1}{24}$

10) $m > -\frac{1}{5}$ or $m < -\frac{6}{7}$

11) $k \leq 0$ or $k \geq \frac{1}{7}$

12) $m \leq -\frac{16}{17}$