

ABSOLUTE VALUE & INEQUALITIES PRACTICE

Solve the inequalities. Write your answer using interval notation.

1. $\frac{2}{3} < x < -2$ **or** $(-\infty, -2) \cup (\frac{2}{3}, \infty)$
2. $\frac{3}{2} > x < -\frac{17}{2}$ **or** $(-\infty, -\frac{17}{2}) \cup (\frac{3}{2}, \infty)$
3. $-\frac{29}{7} > x > -\frac{9}{7}$ **or** $(-\infty, -\frac{29}{7}) \cup (-\frac{9}{7}, \infty)$
4. $-\frac{24}{7} < x < \frac{20}{7}$ **or** $(-\frac{24}{7}, \frac{20}{7})$
5. $-\frac{19}{3} < x < \frac{11}{3}$ **or** $(-\frac{19}{3}, \frac{11}{3})$
6. $-\frac{16}{3} < x < \frac{32}{9}$ **or** $(-\frac{16}{3}, \frac{32}{9})$
7. $-\frac{23}{2} \leq x \leq \frac{13}{2}$ **or** $[-\frac{23}{2}, \frac{13}{2}]$
8. $\frac{3}{7} \leq x \leq -\frac{1}{7}$ **or** $[-\frac{3}{7}, -\frac{1}{7}]$
9. $-\frac{13}{2} \leq x \leq \frac{19}{4}$ **or** $[-\frac{13}{2}, \frac{19}{4}]$
10. $\frac{6}{5} \leq x \leq -6$ **or** $(-\infty, -6] \cup [\frac{6}{5}, \infty)$
11. $-45 \leq x \leq 36$ **or** $[-45, 36]$
12. no solution
13. $-\frac{12}{17} \leq x \leq \frac{8}{17}$ **or** $[-\frac{12}{17}, \frac{8}{17}]$
14. $-10 \leq x \leq 5$ **or** $[-10, 5]$
15. $-\frac{26}{21} < x < \frac{6}{7}$ **or** $(-\frac{26}{21}, \frac{6}{7})$
16. $-\frac{28}{3} < x < \frac{10}{3}$ **or** $(-\frac{28}{3}, \frac{10}{3})$
17. $\frac{9}{7} \leq x \leq -\frac{1}{7}$ **or** $(-\infty, -\frac{17}{2}] \cup [\frac{3}{2}, \infty)$
18. $\frac{41}{9} \leq x \leq -\frac{17}{3}$ **or** $(-\infty, -\frac{17}{3}] \cup [\frac{41}{9}, \infty)$
19. $-11 \leq x \leq 7$ **or** $[-11, 7]$
20. $-9 < x < \frac{13}{2}$ **or** $(-9, \frac{13}{2})$
21. $-\frac{27}{2} \leq x \leq \frac{15}{2}$ **or** $[-\frac{27}{2}, \frac{15}{2}]$
22. $-\frac{24}{7} \leq x \leq 0$ **or** $(-\infty, -\frac{17}{2}] \cup [\frac{3}{2}, \infty)$
23. $-16 \geq x \geq 6$ **or** $(-\infty, -16] \cup [6, \infty)$
24. $-\frac{71}{9} > x > \frac{59}{9}$ **or** $(-\infty, -\frac{71}{9}) \cup (\frac{59}{9}, \infty)$
25. $\frac{11}{15} > x < -\frac{13}{5}$ **or** $(-\infty, -\frac{13}{5}) \cup (\frac{11}{15}, \infty)$
26. $-\frac{13}{5} < x < -1$ **or** $(-\frac{13}{5}, -1)$
27. $-\frac{9}{2} \leq x \leq -\frac{5}{2}$ **or** $(-\infty, -\frac{5}{2}] \cup [\frac{9}{2}, \infty)$
28. $22 < x < -\frac{70}{3}$ **or** $(-\infty, -\frac{70}{3}) \cup (22, \infty)$