

Key

Unit 6: Inequalities

Name: _____

Solving Inequalities with Fractions

Hour: _____

Extra Practice Worksheet 6.5

1. $x + \frac{1}{3}x + 1\frac{3}{7} < \frac{15}{14}$

LCM=42

$\frac{4}{3}x + \frac{10}{7} < \frac{15}{14}$

$\frac{4}{3}x \left(\frac{14}{1}\right) + \frac{10}{7} \left(\frac{14}{1}\right) < \frac{15}{14} \left(\frac{14}{1}\right)$

$56x + 60 < 45$

$56x < -15$

$x < -\frac{15}{56}$

8. $k - \frac{13}{7} + k \geq -\frac{41}{7}$

LCM=7

$2k - \frac{13}{7} \geq -\frac{41}{7}$

$2k(7) - \frac{13}{7}(7) \geq -\frac{41}{7}(7)$

$14k - 13 \geq -41$

$14k \geq -28$

$k \geq -2$

5. $-2\frac{8}{9}d - \frac{2}{3} \geq -\frac{5}{6}$

LCM=18

$-\frac{26}{9}d \left(\frac{18}{1}\right) - \frac{2}{3} \left(\frac{18}{1}\right) \geq -\frac{5}{6} \left(\frac{18}{1}\right)$

$-52d - 12 \geq -15$

$-52d \geq -3$

$d \leq \frac{3}{52}$

7. $-\frac{37}{20} > \frac{3}{2}n + \frac{11}{5}n$

LCM=20

$-\frac{37}{20} \left(\frac{20}{1}\right) > \frac{3}{2}n \left(\frac{20}{1}\right) + \frac{11}{5}n \left(\frac{20}{1}\right)$

$-37 > 30n + 44n$

$-\frac{37}{74} > \frac{74n}{74}$

$-\frac{1}{2} > n$

2. $-\frac{8}{9}m > \frac{64}{81}$

LCM=81

$-\frac{8}{9}m \left(\frac{81}{1}\right) > \frac{64}{81} \left(\frac{81}{1}\right)$

$-72m > 64$

$m < -\frac{8}{9}$

4. $-\frac{4}{5}n + 1 \geq -\frac{44}{55}$

LCM=55

$-\frac{4}{5}n \left(\frac{55}{1}\right) + 1 \left(\frac{55}{1}\right) \geq -\frac{44}{55} \left(\frac{55}{1}\right)$

$-44n + 55 \geq -44$

$-44n \geq -99$

$n \leq \frac{9}{4}$

6. $b - \frac{3}{8} \leq \frac{3}{4}$

LCM=8

$b \left(\frac{8}{1}\right) - \frac{3}{8} \left(\frac{8}{1}\right) \leq \frac{3}{4} \left(\frac{8}{1}\right)$

$8b - 3 \leq 6$

$8b \leq 9$

$b \leq \frac{9}{8}$

8. $-\frac{4}{5}k - 3 \left(k + \frac{2}{3}\right) > -\frac{4}{5}$

LCM=5

$-\frac{4}{5}k - 3k - 2 > -\frac{4}{5}$

$-\frac{4}{5}k \left(\frac{5}{1}\right) - 3k \left(\frac{5}{1}\right) - 2 \left(\frac{5}{1}\right) > -\frac{4}{5} \left(\frac{5}{1}\right)$

$-4k - 15k - 10 > -4$

$-19k - 10 > -4$

$-\frac{19k}{19} > \frac{6}{19}$

$k < -\frac{6}{19}$