

## Extra Practice Worksheet Lesson 6.5

Solve each inequality.

$$1) \left(-x - \frac{3}{4} - 2\right) \geq \frac{5}{12}$$

$$\underline{12(-x)} + \underline{12(-\frac{3}{4})} + \underline{12(-2)} \geq \underline{12(\frac{5}{12})}$$

$$-12x - 9 - 24 \geq 5$$

$$-12x - 33 \geq 5$$

$$+33 \quad +33$$

$$\underline{-12x} \geq \underline{\frac{38}{12}}$$

$$\underline{-12} \quad \underline{\frac{38}{12}}$$

$$x \leq -\frac{19}{6}$$

$$2) \frac{141}{28} \leq \frac{3}{7}x + \frac{5}{2}$$

$$\underline{28(\frac{141}{28})} \leq \underline{28(\frac{3}{7}x)} + \underline{28(\frac{5}{2})} + \underline{28(2)}$$

$$\underline{141} \leq \underline{12x} + \underline{70} + \underline{56}$$

$$\underline{141} \leq \underline{12x} + \underline{126} - \underline{126}$$

$$\underline{\frac{15}{12}} \leq \underline{\frac{12x}{12}}$$

$$\frac{5}{4} \leq x$$

$$3) \frac{136}{49} \leq -\frac{20}{7}x + \frac{3}{7}$$

$$\underline{49(\frac{136}{49})} \leq \underline{49(-\frac{20}{7}x)} + \underline{49(\frac{3}{7}x)}$$

$$\underline{136} \leq \underline{-140x} + \underline{21x}$$

$$\underline{\frac{136}{-119}} \leq \underline{\frac{-119x}{-119}}$$

$$-\frac{8}{7} \geq x$$

$$4) \frac{15}{7}b + 8 - \frac{4}{3}b \geq \frac{521}{63}$$

$$\underline{63(\frac{15}{7}b)} + \underline{63(8)} + \underline{63(-\frac{4}{3}b)} \geq \underline{63(\frac{521}{63})}$$

$$\underline{135b} + \underline{504} - \underline{84b} \geq \underline{521}$$

$$51b + 504 - 84b \geq 521 - 504$$

$$\underline{\frac{51b}{51}} \geq \underline{\frac{17}{51}}$$

$$b \geq \frac{1}{3}$$

$$5) 2n + \frac{3}{2} > 3$$

$$\underline{2(2n)} + \underline{2(\frac{3}{2}n)} > \underline{2(3)}$$

$$4n + 3n > 6$$

$$\frac{7n}{7} > \frac{6}{7}$$

$$n > \frac{6}{7}$$

$$6) -\frac{9}{4}v + \frac{5}{6} + \frac{5}{4} > -\frac{61}{42}$$

$$\underline{84(-\frac{9}{4}v)} + \underline{84(\frac{5}{6})} + \underline{84(\frac{5}{4})} > \underline{84(-\frac{61}{42})}$$

$$-189v + 70 + 105 > -122$$

$$-189v + 175 > -122$$

$$-189v < -297$$

$$v < \frac{11}{7}$$

$$7) \frac{5}{2} > -5a + \frac{13}{4}a$$

$$\underline{4(\frac{5}{2})} > \underline{4(-5a)} + \underline{4(\frac{13}{4}a)}$$

$$\underline{\frac{10}{10}} > \underline{-7a}$$

$$-\frac{10}{7} < a$$

$$8) \frac{7}{2}m - \frac{23}{6} - \frac{3}{8}m > -\frac{39}{8}$$

$$\underline{24(\frac{7}{2}m)} + \underline{24(\frac{23}{6})} + \underline{24(-\frac{3}{8}m)} > \underline{24(-\frac{39}{8})}$$

$$84m - 92 - 9m > -117$$

$$75m - 92 + 92 > -117 + 92$$

$$\underline{\frac{75m}{75}} > \underline{-\frac{25}{75}}$$

$$m > -\frac{1}{3}$$

$$9) -\frac{11}{4} < \frac{1}{2}n + 1 - \frac{13}{6}n$$

$$\underline{12(-\frac{11}{4})} < \underline{12(\frac{1}{2}n)} + \underline{12(1)} + \underline{12(-\frac{13}{6}n)}$$

$$-33 - 12 < 6n + 12 - 26n$$

$$-45 > -20n$$

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

$$10) x + \frac{11}{8} - 2\frac{2}{3} < \frac{29}{24}$$

$$\underline{24(x)} + \underline{24(\frac{11}{8})} + \underline{24(-\frac{8}{3})} < \underline{24(\frac{29}{24})}$$

$$24x + 33 - 64 < 29$$

$$24x - 31 + 31 < 29 + 31$$

$$\underline{\frac{24x}{24}} < \underline{\frac{60}{24}}$$

$$x < \frac{5}{2}$$