

Name: Answers

Date: _____ Period: _____

Lesson 3.2.3 Homework Problems 3-59 to 3-63

3-59. Simplify each expression below.

a. $6 + (-18)$
 (-12)

b. $12\frac{1}{2} + (-25)$

$$\begin{array}{r} 25.0 \\ -12.5 \\ \hline (-12.5) \end{array}$$

c. $-9 + (-9)$
 (-18)

d. $-12.2 + 6.1 + 15.8$

$$\begin{array}{r} 21.9 \\ -12.2 \\ \hline 9.7 \end{array}$$

$$\begin{array}{r} 15.8 \\ +6.1 \\ \hline 21.9 \end{array}$$

3-60. Find each of the following products or quotients without using a calculator. Draw a diagram or use words to explain how you know your product makes sense.

a. $6(-3)$ 6 groups of (-3)

= (-18)



b. $-6(3)$

remove 6 groups of (3)

= 18

c. $-8(-3)$

remove 8 groups of (-3)

= 24

d. $-8(0)$

remove 8 groups of (0)

= 0

e. $-20 \div 5$

-20 divided into 5 groups
 how many are in each group?

= (-4) in each group

f. $-36 \div (-9)$

-36 divided into groups of (-9)
 how many groups are there?

= (4) groups

3-61. Simplify each of the following expressions without using a calculator. Draw diagrams or use words to show your thinking.

a. $4(-2\frac{1}{3}) + 7\frac{1}{6}$ $4 \cdot (-2\frac{1}{3}) = 4 \cdot (-\frac{7}{3}) = \frac{4}{1} \cdot (-\frac{7}{3}) = -\frac{28}{3}$

$-\frac{28}{3} = -9\frac{1}{3} + 7\frac{1}{6} = -9\frac{2}{6} + 7\frac{1}{6} = (-2\frac{1}{6})$



b. $-8 + -2(3)$ $-8 + (-2)(3) = (-8) + (-6) = (-14)$

c. $4 + -5(-3) + (-7)$
 $4 + (-5)(-3) + (-7)$
 $4 + 15 + (-7)$
 $19 + (-7) = 12$

d. $(-4.25)(2) + (-4.25)(-2)$
 $-4.25 \times 2 = -8.50$
 $-8.50 + 8.50 = 0$

3-62. Simplify the following fraction expressions. Show all of your work.

a. $\frac{5}{6} + \frac{1}{4}$ $\frac{7}{12} - \frac{2}{5}$ $\frac{3}{8} \cdot \frac{2}{3} = \frac{6}{24} = \frac{1}{4}$ $\frac{4}{5} \cdot \frac{7}{8} = \frac{28}{40} = \frac{7}{10}$

$\frac{20}{24} + \frac{6}{24} = \frac{26}{24} = 1\frac{2}{24} = 1\frac{1}{12}$

$\frac{35}{60} - \frac{24}{60} = \frac{11}{60}$

3-63. Nathan wants you to solve this puzzle: "I am thinking of a number. If you divide my number by 3 and add -3, you will get 4. What is my number?" Show all of your work.

$n \div 3 + (-3) = 4$
 $\frac{n}{3} + (-3) = 4$
 $\frac{n}{3} = 7$
 $\frac{21}{3} = 7$
 $n = 21$

