CHAPTER 2

PRACTICE TEST PROBLEMS:

NAME:

DATE: PERIOD:

LESSON 2.1 Practice C

For use with pages 64–70

Graph the numbers on a number line. Then order the numbers from least to greatest.

1. 4, −2, and 0

[-2, 0, 4]

Tell whether each number in the list is a whole number, an integer, or a rational number. Then order the numbers from least to greatest.

5. $-\frac{2}{3}$, 1.6, −0.67, 0.7 (R R R R)

-.67, $-\frac{2}{3}$, .7, 1.6

6. $-\frac{5}{4}$, 0.25, 1.3, $\frac{1}{8}$ (R R R R)

$-5/4$, $1/8$, .25, 1.3

W = WHOLE # (NONE)
I = INTEGER (NONE)
R = RATIONAL
ALL RATIONAL

For the given value of *a*, find $-a$ and $|a|$.

7. $a = -\frac{5}{3}$

$-a = -(-5/3) = 5/3$

$|a| = |-5/3| = 5/3$

aluate the expression when $x = -6.25$.

12. $|x| - 5.25$

6.25 − 5.25 = 1

13. $8 \cdot |x|$

8(6.25) = 50

14. $|-x| + (-x)$

6.25 + (−6.25) = 12.5

LESSON 2.2 Practice C

For use with pages 73–79

Use a number line to find the sum.

1. $-7 + 5$ (−2)

3. $-13 + (-8)$ (−21)

4. $19 + (-5)$ (14)

6. $-9 + (-12)$ (−21)

Find the sum. FRACTION PROBLEMS – ANSWERS WITH FRACTIONS!

7. $-12.5 + 3.2$ −9.3

8. $17.6 + (-4.8)$ 12.8

10. $-6\frac{3}{8} + 10\frac{1}{2}$ $4\frac{1}{8}$

11. $8\frac{2}{5} + \left(-6\frac{1}{3}\right)$ $2\frac{1}{15}$

13. $4.21 + (-3.6) + 2.4$ 3.01

15. $-4\frac{1}{3} + \left(-6\frac{1}{2}\right) + 8\frac{5}{12}$ $-2\frac{5}{12}$

aluate the expression for the given value of *x*.

16. $2.4 + x + (-1.8); x = -6.8$ (−6.2)

17. $4.2 + |-x| + (-6.8); x = 6$ (3.4)

Solve the equation.

18. $-3 + x + 14 = 6$ $x = -5$

20. $-9.8 + x + 6.2 = 0$ $x = 3.6$

LESSON 2.3

Practice C

For use with pages 80–85

Find the difference.

1. $24.5 - (-16)$ 40.5

4. $-9.6 - (-14.8)$ 5.2

7. $4.25 - (-6.8)$ 11.05

10. $\frac{3}{8} - \frac{7}{16}$ $-1/16$

11. $-\frac{2}{3} - \left(-\frac{3}{5}\right)$ $-1/15$

Evaluate the expression when $x = -8.25$ and $y = 6.9$.

13. $x - y + 6.1$ -9.05

19. $7.9 - y + x$ -7.25

22. $-6.3 + x - (-y)$ -7.65

23. $|-x| + 14.25 - y$ 15.6

LESSON 2.4

Practice C

For use with pages 87–93

Find the product.

1. $-15(4.3)$ -64.5

4. $-6.25(9.1)$ -56.875

10. $\frac{5}{6}(-25)\left(\frac{3}{5}\right)$ $-12\,1/2$

2. $-7.6(2.5)$ -19

5. $\frac{5}{11}(-66)$ -30

8. $4.2(-3)(-5.1)$ 64.26

11. $14\left(-\frac{3}{5}\right)\left(-\frac{5}{7}\right)$ 6

Identify the property illustrated.

13. $-1 \cdot (xy) = -xy$ MULT PROPERTY OF -1

14. $(-10 \cdot 13) \cdot 2 = -10 \cdot (13 \cdot 2)$ ASSOCIATIVE PROPERTY

15. $\left(\frac{3}{5} \cdot 4\right)(5) = \left(4 \cdot \frac{3}{5}\right)(5)$ COMMUNITIVE PROPERTY

Find the product. Justify your steps.

16. $-5.5(0)(2.6) = 0$ MULT PROPERTY OF ZERO

17. $-7x(3.5)(2x)$

$-7(3.5)x(2x)$ Comm. P

$-24.5x(2x)$ Product

$-24.5 \cdot 2 \cdot x \cdot x$ Comm. P

$-49 \cdot x \cdot x$ Product

$-49x^2$ Product

Evaluate the expression when $x = -2.5$ and $y = 1.2$.

19. $3x + y$ -6.3

20. $y - 5x$ 13.7

25. **Lake Eyre** The lowest point in Australia is Lake Eyre. Its elevation is -12 meters. What is this elevation in feet? *Hint:* Use the fact that 1 meter $\approx$ 3.281 feet.

KI:

$1\text{ m} = 3.281\text{ ft}$

lowest point -12 m

$-12\text{ m} \cdot \frac{3.281\text{ ft}}{1\text{ m}} = -39.372\text{ ft}$

LESSON 2.5

Practice C

For use with pages 96–101

Use the distributive property to write an equivalent expression.

1. $5x(x + 3)$ $5x^2+15x$
2. $2x(x - 8)$ $2x^2-16x$
4. $(10x - 1)(-7x)$ $-70x^2+7x$
5. $\frac{1}{2}(8x - 1)$ $4x-1/2$
7. $-\frac{1}{4}(16 - 4x)$ $-4+x$ or $x-4$
8. $\frac{3}{4}x(8x + 2)$ $6x^2+3/2x$ OR $6x^2+1.5x$

Identify the terms, like terms, coefficients, and constant terms of the expression.

10. $-2x^2 + 3x + 5x - 1$ Terms: $-2x^2, 3x, 5x, -1$ LT's: $3x, 5x$ COEF: $-2, 3, 5$ CONSTANT: -1
12. $6x^2 - 3x + 1 - 5x^2 + 2$ Terms: $6x^2, -3x, 1, -5x^2, 2$ COEF: $6, -3, -5$ Constants: $1, 2$ LT's: $6x^2 + -5x^2$; $1+2$

Simplify the expression.

13. $3(5x - 1) + 7$ $15x+4$
15. $7(x - 3) - 2x$ $7x-21-2x = 5x-21$
16. $10x - 3(2x + 8)$ $10x-6x-24 = 4x-24$
18. $14x - 5(3 - 2x)$ $14x-15+10x = 24x-15$
19. $(4x - 1)(-2) + 15x$ $-8x+2+15x = 7x+2$
21. $20 - (8 - x)(-3)$ $20-[-24+3x] = 20+24-3x = -3x+44$

Translate the verbal phrase into an expression. Then simplify the expression.

22. Twice the difference of 5 and x, increased by the product of 2 and x $2(5-x)+2x = 10$
23. The product of -5 and the sum of x and 8, decreased by the product of 3 and x $-5(x+8)-3x = -8x-40$
24. **Quilts** You are using solid colored fabric that costs \$.06 per square and patterned fabric that costs \$.10 per square to make a quilt. You need 660 squares to complete the quilt. Write an equation that gives the total cost c as a function of the number n of solid squares used. Then find the total cost if you use 200 solid colored squares.

KI: Solid \$.06/square; Pattern \$.10/square; Need 660 squares

Variables: C = Total Cost \$'s; N = # of quilt squares (solid); $660-N$ = # pattern squares

EQ: $C = .06N + .1(660-N)$

$C = .06(200) + .1(660-200)$ → Cost \$58

LESSON 2.6

Practice C

For use with pages 103–108

Find the quotient. LEAVE ANSWERS AS FRACTIONS

1. $-28 \div \left(-\frac{4}{7}\right) = -\frac{28}{1} \cdot -\frac{7}{4} = 49$
3. $-\frac{5}{8} \div 4 = -\frac{5}{8} \cdot \frac{1}{4} = -5/32$
4. $-1 \div \left(-\frac{8}{5}\right) = -1 \cdot -\frac{5}{8} = 5/8$
6. $-\frac{7}{10} \div (-5) = -\frac{7}{10} \cdot -\frac{1}{5} = 7/50$
7. $20 \div \left(-\frac{3}{5}\right) = \frac{20}{1} \cdot \frac{-5}{3} = \frac{-100}{3} = -33\,1/3$
9. $-\frac{3}{8} \div \frac{3}{4} = -\frac{\cancel{3}}{\cancel{8}_2} \cdot \frac{\cancel{4}^1}{\cancel{3}_1} = -1/2$

Find the mean of the numbers.

10. $-5, 1, -16, 7$ $\frac{-13}{4} = -3.25$
11. $7.4, -8.3, 9.5, -10.6$ $\frac{-2}{4} = -.5$
12. $-3.5, -8.7, 11.2, -3.6$ $\frac{-4.6}{4} = -1.15$

Simplify the expression.

16. $\frac{-7x + 21}{-7}$ $x-3$
17. $\frac{24x - 48x}{12} = \frac{-24x}{12} = -2x$
18. $\frac{38x - 28}{-2} = -19x+14$

LESSON 2.6

Graphing Calculator Activity: Evaluating Expressions

For use after Lesson 2.6

QUESTION **How can you use a calculator to evaluate expressions?**

EXAMPLE **Evaluate expressions**

Use a calculator to evaluate each expression.

a. $-254{,}044 + (-63{,}851)$

b. $3041 - (-789)$

c. $-105 \times (-878)$

d. $-\frac{230{,}595}{120}$

Solution

Use the following keystrokes to find your answer.

	Keystrokes	Display
a.	254044 + 63851	-317895
b.	3041 − 789	3830
c.	105 × 878	92190
d.	230595 ÷ 120	-1921.625

PRACTICE **Use a calculator to evaluate the expression.**

1. $-36{,}952 + 65{,}244$ 28,292

3. $5843 \times (-377)$ -2,202,811

4. $\frac{-69{,}951}{-3331}$ 21

6. $21{,}036 - 34{,}699$ -13,663

7. -962×48 -46,176

9. $\frac{-230 \cdot (-45)}{-24}$ -431.25