$\label{eq:warmup} Warm Up$ Find the value of each expression in lowest terms.

1.
$$3 \div \frac{17}{4} \div \frac{18}{5}$$
 4. $2 \div \left(\frac{12}{7} \div \frac{20}{3}\right)$ 7. $\frac{19}{7} \div \frac{1}{3} \div \frac{5}{3}$

2.
$$\frac{1}{2} \div \frac{2}{7} \div 11$$
 5. $\frac{4}{5} \div \left(\frac{7}{5} \div 10\right)$ 8. $4 \div \frac{9}{2} \div \frac{17}{6}$

November 14, 2016 Lesson 3.4E

Learning Objective: Students will be able to factor numerical and algebraic expressions.

Warm Up Answers

Find the value of each expression in lowest terms.

1.
$$3 \div \frac{17}{4} \div \frac{18}{5}$$

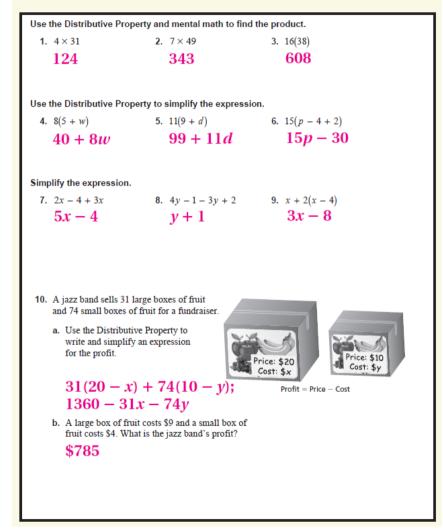
 $= \frac{10}{51}$
4. $2 \div \left(\frac{12}{7} \div \frac{20}{3}\right)$
7. $\frac{19}{7} \div \frac{1}{3} \div \frac{5}{3}$
 $= \frac{70}{9} = 7\frac{7}{9}$
7. $\frac{19}{7} \div \frac{1}{3} \div \frac{5}{3}$
 $= \frac{171}{35} = 4\frac{31}{35}$

2.
$$\frac{1}{2} \div \frac{2}{7} \div 11$$

= $\frac{7}{44}$
5. $\frac{4}{5} \div \left(\frac{7}{5} \div 10\right)$
= $\frac{40}{7} = 5\frac{5}{7}$
8. $4 \div \frac{9}{2} \div \frac{17}{6}$
= $\frac{16}{51}$

Homework Answers

3.4 Record and Practice Journal



Lesson 3.4 Extension

November 14, 2016

Lesson Objective:

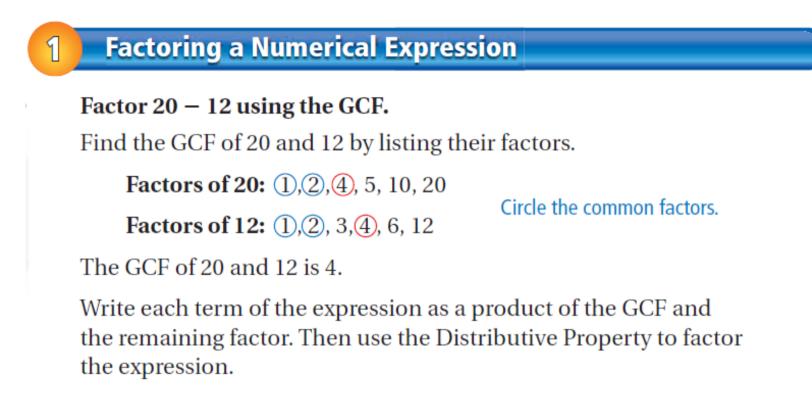
Students will be able to:

factor numerical and algebraic expressions.

Self-Evaluation Scale

Score	Description
4	I can teach other students how to factor numerical and algebraic expressions.
3	I can factor numerical and algebraic expressions.
2	I recognize, but still need help to factor numerical and algebraic expressions.
1	I do not know how to factor numerical and algebraic expressions.

 Key Idea
 Factoring an Expression
 Words Writing a numerical expression or algebraic expression as a product of factors is called factoring the expression. You can use the Distributive Property to factor expressions.
 Numbers 3 • 7 + 3 • 2 = 3(7 + 2) Algebra ab + ac = a(b + c) 3 • 7 - 3 • 2 = 3(7 - 2) ab - ac = a(b - c)



20 - 12 = 4(5) - 4(3) Rewrite using GCF. = 4(5 - 3) Distributive Property 2

Learning Objective: Students will be able to factor numerical and algebraic expressions.

Identifying Equivalent Expressions

Which expression is not equivalent to 16x + 24?

(A) 2(8x+12) (B) 4(4x+6) (C) 6(3x+4) (D) (2x+3)8

Each choice is a product of two factors in which one is a whole number and the other is the sum of two terms. For an expression to be equivalent to 16x + 24, its whole number factor must be a common factor of 16 and 24.

Factors of 16: (1),(2),(4),(8), 16

Factors of 24: (1),(2), 3,(4), 6,(8), 12, 24

Circle the common factors.

The common factors of 16 and 24 are 1, 2, 4, and 8. Because 6 is not a common factor of 16 and 24, Choice C cannot be equivalent to 16x + 24.

Check: $6(3x + 4) = 6(3x) + 6(4) = 18x + 24 \neq 16x + 24$

So, the correct answer is **C**.

 $5x = 5 \cdot x$ $15 = 5 \cdot 3$

Factoring an Algebraic Expression

You receive a discount on each book you buy for your electronic reader. The original price of each book is x dollars. You buy 5 books for a total of (5x - 15) dollars. Factor the expression. What can you conclude about the discount?

Find the GCF of 5x and 15 by writing their prime factorizations.

3

Circle the common prime factor.

So, the GCF of 5*x* and 15 is 5. Use the GCF to factor the expression.

5x - 15 = 5(x) - 5(3) Rewrite using GCF.

= 5(x - 3) Distributive Property

The factor 5 represents the number of books purchased. The factor (x - 3) represents the price of each book. This factor is a difference of two terms, showing that the price *x* of each book is decreased by \$3.

-So, the factored expression shows a \$3 discount for every book you buy. The original expression shows a total savings of \$15.

Assignment

Complete problems 2, 6, 8, 10, 12, 14, 16, 18, & 19 on page 141 in your Big Ideas Text Book.

Assignment Answers					
2.	11(4 - 1)	16.	8(3y + 11x)		
6.	5(14 + 19) 20(5 - 4) 16(3 + 5)	18. Sample answer: $16 + 8x$, 8(x + 2), $4(2x + 4)$, 2(4x + 8), $(4x + 8)2$			
10.	3(5x + 2)	19.	(x + 4) ft		
12.	10(5x - 6)				
14.	14(x - 7)				

Lesson 3.4 Extension

November 14, 2016

Lesson Objective:

Students will be able to:

factor numerical and algebraic expressions.

Self-Evaluation Scale

Score	Description
4	I can teach other students how to factor numerical and algebraic expressions.
3	I can factor numerical and algebraic expressions.
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Homework

In your Big Ideas Record and Practice Journal page 73 & 74.