

Name: Key Date: _____ Class: _____

QUIZ REVIEW:

GCF, DIVISIBILITY, AND THE DISTRIBUTIVE PROPERTY

The quiz is scheduled for _____. Use this review to help you prepare for this assessment. Make sure you are familiar with the following vocabulary.

VOCABULARY: factors, Greatest Common Factor, Distributive Property
KEY IDEAS: Study the divisibility rules for 2, 3, 5 and 10.

DIRECTIONS: FIRST, FILL IN THE HINT BOXES TO HELP YOU BEGIN THINKING ABOUT EACH PROBLEM. THEN, ANSWER THE FOLLOWING QUESTIONS REFERRING TO YOUR CLASS NOTES, IF NEEDED.

PART I: NUMBER THEORY

1. Determine if 225 is divisible by 2, 3, 5, 7, or 10. Provide a reason for each or show your work on the line provided.

Divisible by 2? NO, it is not an even number.

Divisible by 3? yes $2+2+5=9$ and $3 \times 3=9$

Divisible by 5? yes, it ends in a 5.

Divisible by 7? NO, since there is a remainder when you divide.

Divisible by 10? NO, it does not end in 0.

3225
 $7 \overline{) 225}$
 $\underline{21}$
 15
 $\underline{14}$
 1

2. LIST all of the factors of 54. (Use factor rainbows.)

1 2 3 6 9 18 27 54

Hint Box:

Write the divisibility rules for the following numbers:

2: even number

3: sum of the digits is divisible by 3

5: ends in a 0 or 5

10: ends in 0

What if the number is not in the divisibility rules chart?

How do you check divisibility?
 Divide and quotient should be a whole number

3. Find the GCF of the following sets of numbers by listing factors.

a. 32, 48

32: 1 2 4 8 16 32
 48: 1 2 3 4 6 8 12 16 24 48

GCF = 16

b. 24, 42

24: 1 2 3 4 6 8 12 24
 42: 1 2 3 6 7 14 21 42

GCF = 6

4. Find the GCF of the following sets of numbers using the birthday cake strategy.

a. 60, 56

2	60	56
2	30	28
2	15	14

GCF = 4

b. 124, 64

2	124	64
2	62	32
2	31	16

GCF = 4

Hint Box:

What does GCF stand for?

greatest common factor

When is it appropriate to use the "listing factors" strategy?

when the numbers are small in value

When is it appropriate to use the "birthday cake" strategy?

when the numbers are larger in value

PART II: DISTRIBUTIVE PROPERTY

5. Simplify the following expressions using the distributive property. Please use the funnel method.

a. $5(9 - 3)$

$$\begin{array}{r} 5(9-3) \\ 5 \cdot 9 - 5 \cdot 3 \\ 45 - 15 \\ 30 \end{array}$$

Hint Box:
What does the word "distribute" mean?
 share with others

b. $5(10 + 4)$

$$\begin{array}{r} 5(10+4) \\ 5 \cdot 10 + 5 \cdot 4 \\ 50 + 20 \\ 70 \end{array}$$

c. $(3 - 1) 4$
 rewrite as $4(3-1)$

$$\begin{array}{r} 4(3-1) \\ 4 \cdot 3 - 4 \cdot 1 \\ 12 - 4 \\ 8 \end{array}$$

6. Write an equivalent expression that is written as a product using the distributive property and GCF.

a. $30 + 55$

$$5(6+11)$$

b. $25 - 15$

$$5(5-3)$$

Hint Box:
What operation does product signify?
 multiplication

What is the best strategy to use in finding the GCF of these values?
 Birthday cake

How can you check if your "new" expression is correct?
 distribute the answer

c. $27 + 30$

$$3(9+10)$$

d. $42 - 35$

$$7(6-5)$$