

# KEY

Unit 2 Review: Divisibility, Factors, GCF, and LCM

REMEMEBER: Partial credit is granted only when work is shown and comprehensible.

Tell whether each number is prime, composite, or neither.

- 1) 57 Composite  
 $3 \times 19$
- 2) 15 Composite  
 $5 \times 3$
- 3) 23 Prime

Tell whether each number is divisible by 2,3,4,5,6,9, or 10

- 4) 81 3, 9  
 $81 = 9$
- 5) 270 2, 3, 5, 6, 9, 10

Find the Prime Factorization.

- 5) 44  $2^2 \times 11$   
 $4 \begin{matrix} \nearrow \\ \textcircled{1} \end{matrix}$   
 $2 \begin{matrix} \nearrow \\ \textcircled{2} \end{matrix}$   
 $2 \cdot 2 \cdot 11$
- 6) 56  $2^3 \times 7$   
 $8 \begin{matrix} \nearrow \\ \textcircled{1} \end{matrix}$   
 $4 \begin{matrix} \nearrow \\ \textcircled{2} \end{matrix}$   
 $2 \begin{matrix} \nearrow \\ \textcircled{2} \end{matrix}$   
 $2 \cdot 2 \cdot 2 \cdot 7$
- 7) 125  $5^3$   
 $5 \begin{matrix} \nearrow \\ \textcircled{25} \end{matrix}$   
 $5 \begin{matrix} \nearrow \\ \textcircled{5} \end{matrix}$   
 $5 \cdot 5 \cdot 5$

Find the Greatest Common Factor.

- 8) 24 and 54 6  
 $\begin{array}{r|rr} 2 & 24 & 54 \\ \hline 3 & 12 & 27 \\ \hline & 4 & 9 \end{array}$   $2 \times 3 = 6$
- 9) 6, 12, and 18 6  
 $\begin{array}{r|rrr} 2 & 6 & 12 & 18 \\ \hline 3 & 3 & 6 & 9 \\ \hline & 1 & 2 & 3 \end{array}$   $2 \times 3 = 6$

Find the Least Common Multiple.

- 10) 8 and 12 24  
 $\begin{array}{r|rr} 4 & 8 & 12 \\ \hline & 2 & 3 \end{array}$   
 $4 \cdot 2 \cdot 3 = 24$
- 11) 2, 5, and 8 40  
 $\begin{array}{r|rrr} 2 & 2 & 5 & 8 \\ \hline & 1 & 5 & 4 \end{array}$   
 $2 \times 1 \times 5 \times 4$
- \* For 3 #s in LCM TAKE A NUMBER OUT OF 2 #s IF 3 DOESN'T WORK

**Find the Greatest Common Factor and Least Common Multiple.**

12) 15 and 18 GCF = 3 LCM = 90

$$\begin{array}{r} 3 \overline{) 15 \quad 18} \\ \underline{5 \quad 6} \end{array}$$

$$3 \times 5 \times 6 = 90$$

**Word Problems**

13) Jasmine made a 2 by 28 rectangle using 56 tiles. Including the 2 by 28, how many different rectangles can be made using the 56 tiles?

How many rectangles: 3



14) Dylan has 42 cookies, 56 brownies, and 63 cupcakes. He wants to make identical treat baskets for as many friends as possible. How many treat baskets can Dylan make? How many cookies, brownies and cupcakes will be in each basket? *SPLIT WITH LCM → GCF*

Number of Treat baskets: 7

6 cookies      8 brownies      9 cupcakes

$$\begin{array}{r} 7 \overline{) 42 \quad 56 \quad 63} \\ \underline{6 \quad 8 \quad 9} \end{array}$$

15)  $5 \cdot 2^4$  is the prime factorization of which number? 80

$$\frac{5 \cdot 2 \cdot 2 \cdot 2 \cdot 2}{10 \cdot 8} = 80$$

16) Riley and her sister Becca are at the mall. They separate from each other at the food court at 12:00 pm. They agree they will each meet back at the food court from time to time to see whether the other is ready to leave. Riley checks the food court every 18 minutes. Becca checks every 45 minutes. At what time will they meet at the food court again?

Time: 1:30

R:	12:00	12:18	12:36	12:54	1:12	1:30
B:	12:00	12:45	1:30	2:15	3:00	

17) 150 people go to a concert. Every 20<sup>th</sup> person gets a free t-shirt, every 30<sup>th</sup> person gets a free CD. How many people get both a free t-shirt and a free CD?

Number of People that get both: 2

$$\begin{array}{r} 10 \overline{) 20 \quad 30} \\ \underline{2 \quad 3} \end{array}$$

$$10 \cdot 2 \cdot 3 = 60$$

$$\begin{array}{r} 60 \overline{) 150} \\ \underline{+ 20} \\ 30 \end{array}$$

$$60^{th} \times 120^{th}$$