## LEsson Greatest Common Factor <br> 2-1

## Practice and Problem Solving: A/B

## List the factors of each number.

1. 5
2. 15
3. 60
4. 6
5. 12
6. 36

Find the greatest common factor (GCF) for each pair of numbers.
7. 6 and 9
8. 4 and 8
9. 8 and 12

## 10. 6 and 15

11. 10 and 15
12. 9 and 12
$\qquad$
$\qquad$
$\qquad$

Write the sum of the numbers as the product of their GCF and another sum.
13. $44+40=$
$\qquad$
15. $13+52=$
$\qquad$
Solve.
17. A jewelry maker will use 24 jade beads and 30 teak beads to make necklaces. Each necklace will have the same numbers of jade beads and teak beads. What is the greatest number of necklaces she can make? How many beads of each type are on each necklace?
18. The marine-life store would like to set up fish tanks that contain equal numbers of angel fish, swordtails, and guppies. What is the greatest number of tanks that can be set up if the store has 12 angel fish, 24 swordtails, and 30 guppies?

## LEsson Least Common Multiple

## 2-2 <br> Practice and Problem Solving: A/B

## List the first three multiples of each number.

1. 3
2. 7
3. 12
4. 200

Find the least common multiple (LCM).
5. 2 and 3

2: $\qquad$

3: $\qquad$
6. 4 and 5

4: $\qquad$
5: $\qquad$
9. 5, 6, and 7

5: $\qquad$
6: $\qquad$

7: $\qquad$
7. 6 and 7

6: $\qquad$
7: $\qquad$
10. 8, 9, and 10

8: $\qquad$

9 : $\qquad$
$10:$ $\qquad$

Solve.
11. Sixty people are invited to a party. There are 24 cups in a package and 18 napkins in a package. What is the least number of packages of cups and napkins that can be bought if each party guest gets one cup and one napkin?
12. The science club sponsor is ordering caps and shirts for the boys and girls in the science club. There are 45 science club members. If the caps come in packages of 3 and the shirts come in packages of 5 , what is the least number of packages of caps and shirts that will need to be ordered?
13. Some hot dogs come in packages of 8 . Why would a baker of hot dog buns package 7 hot dog buns to a package?
$\qquad$
14. How are the GCF and the LCM alike and different?

## module Factors and Multiples <br> Challenge

One month is the name for the time it takes the moon to orbit Earth one time. A month is about 30 days. Planet Alpha in another star system has 6 moons, which orbit the planet in the times given in the table.

| The Moons of Planet Alpha |  |
| :---: | :---: |
| Beta | 10 days |
| Delta | 7 days |
| Epsilon | 8 days |
| Gamma | 13 days |
| Kappa | 26 days |

Complete the table to show the number of orbits it will take for the moons of Planet Alpha to form a straight line with Planet Alpha and the planetary system's star. See the hint below the table for completing the last row.

| Planet Alpha Moons | LCM of Months | Number of Orbits of Each Moon |
| :---: | :---: | :---: |
| Beta and Delta | 1. | 2. Beta: ___ 3. Delta: |
| Delta and Epsilon | 4. | 5. Delta:___ ; 6. Epsilon: |
| Delta, Gamma, and Epsilon | 7. | 8. Delta: ___ ; 9. Epsilon: ___ ; 10. Gamma: __ |
| Gamma and Kappa | 11. | 12. Gamma: ___ ; 13. Kappa: |
| All 5 moons | 14. | 15. Beta: $\qquad$ ; 16. Delta: $\qquad$ ; 17. Epsilon: $\qquad$ <br> 18. Gamma: $\qquad$ ; 19. Kappa: $\qquad$ |

(Hint: To find the LCM of the months of all 5 planets, divide all of the months that are divisible by 2 . Keep dividing the months that are divisible by 2 until you get 1 . Do the same for all of the months that are divisible by any other numbers, like 7 and 13 . When you are unable to divide another number, multiply all of the divisors you used to get the LCM.)

