

6th Grade Unit 1: Lesson 3-2

Check Your Understanding (p. 40):

5. (a) 24 (b) 30
(c) 20 (d) 18
(e) 42 (f) 36
(g) 12 (h) 20
(i) 60
6. GCF; Answers may vary. The two equations show the prime factorizations of the numbers. From those she finds the common factors 2, 2, 2, and 3. The product of the common factors of two numbers is their greatest common factor.

Lesson 3-2 Practice (p. 40):

7. midnight
8. 120 miles
9. Answers may vary. Multiply the factors in the intersection of the circles by the factors that are not in the intersection: $2 \times 3 \times 5 \times 7 = 210$. So the LCM of 30 and 42 is 210.
10. Answers may vary. Making lists. It's easy to make lists. You simply multiply each of the given numbers by 1, 2, 3, and so on. To use prime factorizations you have to first figure out divisors of the numbers, then divide each number by the divisors one by one, then find the product of the common and uncommon divisors. Making lists is faster.
11. $2^6 \times 3^7 \times 5$

Activity 3 Practice Lesson 3-2 (p. 42):

11. C
12. A
13. 36
14. (a) 8 (b) 9, 12
(c) 15 (d) 29
(e) 12 (f) 30
(g) 72 (h) 36
15. (a) 90 inches
(b) five 18-inch boxes and three 30-inch boxes
16. (a) 4 packages of pens and 3 packages of pencils
(b) 24 pens and 24 pencils
17. July 23
18. (a) 20 cartons of eggs and 8 packages of muffins
(b) 180 eggs and 180 muffins
19. carton 180
20. (a)

Numbers	GCF	LCM
8, 10	2	40
9, 12	3	36
12, 18	6	36
5, 9	1	45

(b) The product of two numbers equals the product of the greatest common factor and the least common multiple of those numbers.

(c) 15; Answers may vary. Find the product $\text{GCF} \times \text{LCM}$: $5 \times 60 = 300$. This must equal the product of the two numbers, one of which is 20. So the other number equals $300 \div 20 = 15$.