

1.6 Least Common Multiple

1

ESSENTIAL QUESTION

How can you find the least common multiple of two numbers?

2

COMMON CORE STATE STANDARDS

6.NS.4 Find . . . the least common multiple of two whole numbers less than or equal to 12 . . .

3

What are the first 6 multiples of the following numbers:

5 5, 10, 15, 20, 25, 30

8 8, 16, 24, 32, 40, 48

10 10, 20, 30, 40, 50, 60

4

LEAST COMMON MULTIPLE (LCM) -> The smallest multiple that is shared by two or more numbers.

You can find the LCM of two or more numbers by listing multiples.

5

EXAMPLE Finding the LCM Using Lists of Multiples

Find the LCM of 4 and 6 using lists of multiples.

4 → 4, 8, 12
 6 → 6, 12, 18
 LCM = 12

6

● On Your Own

Find the LCM of the numbers using lists of multiples.

1. 3, 8

3 → 3, 6, 9, 12, 15, 18, 21, 24

8 → 8, 16, 24

LCM = 24

7

● On Your Own

Find the LCM of the numbers using lists of multiples.

1. 9, 12

9 → 9, 18, 27, 36

12 → 12, 24, 36

LCM = 36

8

● On Your Own

Find the LCM of the numbers using lists of multiples.

1. 6, 10

6 → 6, 12, 18, 24, 30, 36, 42
48, 54, 60

10 → 10, 20, 30, 40, 50, 60

LCM = 60

9

● On Your Own

Find the LCM of the numbers of 2, 5, and 8

2 → 2, 4, 6, 8, 10, 12, 14, 16, 18, 20,
22, 24, 26, 28, 30, 32, 34, 36, 38, 40

5 → 5, 10, 15, 20, 25, 30, 35, 40

8 → 8, 16, 24, 32, 40

LCM = 40

10

● On Your Own

Find the LCM of the numbers of 6, 10, and 12

6 → 6, 12, 18, 24, 30, 36, 42
+ 48, 54, 60

10 → 10, 20, 30, 40, 50, 60

12 → 12, 24, 36, 48, 60

LCM = 60

11

Another way you can find the LCM of two or more numbers is by prime factorization.

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① Find the prime factorization of each number.

② Circle each different factor where it appears the most.

EXAMPLE ? Finding the LCM Using Prime Factorizations

Find the LCM of 16 and 20 using prime factorization.

13

$$16 \rightarrow 2 \cdot 2 \cdot 2 \cdot 2$$

$$20 \rightarrow 2 \cdot 2 \cdot 5$$

$$LCM = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 5 = 80$$

● On Your Own

Find the LCM of the numbers using prime factorization.

1. 14, 18

14

$$14 \rightarrow 2 \cdot 7$$

$$18 \rightarrow 2 \cdot 3 \cdot 3$$

$$LCM = 2 \cdot 3 \cdot 3 \cdot 7 = 126$$

● On Your Own

Find the LCM of the numbers using prime factorization.

2. 28, 36

15

$$28 \rightarrow 2 \cdot 2 \cdot 7$$

$$36 \rightarrow 2 \cdot 2 \cdot 3 \cdot 3$$

$$LCM = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 7 = 252$$

● On Your Own

Find the LCM of the numbers using prime factorization.

2. 24, 90

16

$$24 \rightarrow 2 \cdot 2 \cdot 2 \cdot 3$$

$$90 \rightarrow 2 \cdot 3 \cdot 3 \cdot 5$$

$$LCM = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 = 360$$

