

CHAPTER-5 | Prime Time

QUIZ
PART-04

1. Which jump sizes will land on both 28 and 70?

- A. 1, 2, 7, 14
B. 1, 2, 4, 5
C. 2, 5, 10, 14
D. 1, 7, 28, 70 (A)

Explanation: Jump sizes that land on both numbers must be common factors of 28 and 70. These are 1, 2, 7, 14.

2. Which of the following is a common factor of 28 and 70?

- A. 4
B. 5
C. 7
D. 10 (C)

Explanation: 7 divides both 28 and 70 exactly, so it is a common factor.

3. In the erased-numbers diagram, one possible pair of numbers is:

- A. 6 and 8
B. 5 and 8
C. 7 and 9
D. 4 and 9 (A)

Explanation: The PDF gives 6 and 8 as a valid pair because the shown common multiples match multiples common to both.

4. Which number is a common multiple of 6 and 8?

- A. 18
B. 24
C. 30
D. 42 (B)

Explanation: 24 is divisible by both 6 and 8, so it is a common multiple.

5. The smallest number that is a multiple of all numbers from 1 to 10 except 7 is:

- A. 180
B. 360
C. 720
D. 2520 (B)

Explanation: The LCM of 1 to 10 excluding 7 is 360.

6. Why is 360 not a multiple of all numbers from 1 to 10?

- A. It is not divisible by 5
B. It is not divisible by 8
C. It is not divisible by 7
D. It is not divisible by 9 (C)

Explanation: $360 \div 7$ is not a whole number, so 360 is not a multiple of 7.

7. The smallest number that is a multiple of all numbers from 1 to 10 is:

- A. 1260
B. 2520
C. 3600
D. 5040 (B)

Explanation: The LCM of all numbers from 1 to 10 is 2520.

8. Which prime factor must be included in the LCM of 1 to 10 but not in the LCM of 1 to 10 except 7?

- A. 2
B. 3
C. 5
D. 7 (D)

Explanation: When 7 is included, the LCM must also include the prime factor 7.

9. Which expression correctly gives the LCM of numbers from 1 to 10?

- A. $2 \times 3 \times 5 \times 7$
B. $2^2 \times 3^2 \times 5 \times 7$
C. $2^3 \times 3^2 \times 5 \times 7$
D. $2^3 \times 3 \times 5 \times 7$ (C)

Explanation: The highest powers needed are 2^3 , 3^2 , 5, and 7, giving the LCM.

10. What is the difference between the two smallest numbers found in Questions 9 and 10 of the chapter?

- A. 1800
B. 2060
C. 2160
D. 2520 (C)

Explanation: The numbers are 2520 and 360. Their difference is $2520 - 360 = 2160$.