

Multiples and Least Common Multiple

Unit: Playing with Numbers - Student Practice Worksheet

Overview: Anaya's bus comes every 4 minutes. Kabir's bus comes every 6 minutes. Both left the stop together at 9:00 am. Ms. Rao asked: at what time will both buses next be at the stop together? Listing out arrival times for each bus, one number appeared in both lists first — and that number had a name.

Practice Questions (30 Total)

Section A - Easy

Q1. The teal box marks the first shared multiple of 4 and 6. What is the LCM?

4: 4 8 12 16 20 24

6: 6 12 18 24

12

- ☐ A. 24
- ☐ B. 10
- ☐ C. 2
- ☐ D. 12

Q2. What is a multiple of 4?

- ☐ A. 4 times a whole number
- ☐ B. A number that divides 4
- ☐ C. Half of 4
- ☐ D. A number smaller than 4

Q3. List the first four multiples of 3.

- ☐ A. 1, 2, 3, 4
- ☐ B. 3, 6, 9, 12
- ☐ C. 3, 9, 27, 81
- ☐ D. 3, 5, 7, 9

Q4. The two lists share 15 first. What is the LCM of 3 and 5?

3: 3 6 9 12 15 18

5: 5 10 15 20

- ☐ A. 8
- ☐ B. 10
- ☐ C. 20
- ☐ D. 15

Q5. What does LCM stand for?

- ☐ A. Largest Common Multiple
- ☐ B. Least Common Factor
- ☐ C. Least Common Multiple
- ☐ D. Longest Common Multiple

Q6. List the first four multiples of 7.

- ☐ A. 1, 7, 14, 21
- ☐ B. 7, 17, 27, 37
- ☐ C. 7, 14, 21, 28
- ☐ D. 0, 7, 14, 21

Q7. The maroon mark is 6 on the line. What is the LCM of 2 and 3?



- ☐ A. 5
- ☐ B. 6
- ☐ C. 9
- ☐ D. 1

Q8. What is a common multiple?

- ☐ A. A factor shared by two numbers
- ☐ B. A number shared by two multiple lists
- ☐ C. The smallest number possible

☐ **D.** Any even number

Q9. Is 15 a multiple of 5?

☐ **A.** Yes

☐ **B.** No

☐ **C.** Only sometimes

☐ **D.** Cannot be checked

Q10. 16 minutes is 4×4 . Is that an arrival for a bus every 4 minutes?

☐ **A.** Yes

☐ **B.** No

☐ **C.** Only on weekends

☐ **D.** Cannot be checked

Section B - Medium

Q11. The cards add 12 minutes to 9:00. When do the 4-min and 6-min buses next meet?

9:00	+	12 min
------	---	--------

☐ **A.** 9:12 am

☐ **B.** 9:06 am

☐ **C.** 9:10 am

☐ **D.** 9:24 am

Q12. If one number is a multiple of another, like 3 and 9, what is their LCM?

☐ **A.** The larger number

☐ **B.** The smaller number

☐ **C.** Their sum

☐ **D.** Always 1

Q13. Find the LCM of 6 and 8.

☐ **A.** 14

☐ **B.** 24

☐ **C.** 48

☐ D. 18

Q14. The maroon blink is where 3-second and 4-second lights meet. When is that?



☐ A. 12 seconds

☐ B. 6 seconds

☐ C. 7 seconds

☐ D. 3 seconds

Q15. Find the LCM of 5 and 10.

☐ A. 5

☐ B. 50

☐ C. 15

☐ D. 10

Q16. Find the LCM of 9 and 12.

☐ A. 108

☐ B. 24

☐ C. 36

☐ D. 18

Q17. The cards show 4×5 . What is the LCM of 4 and 5?



☐ A. 9

☐ B. 40

☐ C. 1

☐ D. 20

Q18. Kabir lists multiples of 6: 6,12,18,24,30,36. Which is the smallest one over 20?

☐ A. 18

- ☐ B. 30
- ☐ C. 24
- ☐ D. 36

Q19. Find the LCM of 2, 3, and 4.

- ☐ A. 6
- ☐ B. 12
- ☐ C. 24
- ☐ D. 9

Q20. List multiples of 10 and 15, then pick the smallest shared one. What is the LCM?

- ☐ A. 5
- ☐ B. 30
- ☐ C. 25
- ☐ D. 150

Section C - Challenge

Q21. Three bells are marked 4s, 6s and 8s. When do all three next ring together?



- ☐ A. 12 seconds
- ☐ B. 24 seconds
- ☐ C. 48 seconds
- ☐ D. 8 seconds

Q22. Why can the LCM of two numbers never be smaller than the larger number?

- ☐ A. A multiple can never be smaller than its own number
- ☐ B. It actually can be smaller sometimes
- ☐ C. Because LCM is always odd
- ☐ D. There is no real reason

Q23. Find the LCM of 8 and 9.

- ☐ A. 17

- ☐ B. 36
- ☐ C. 72
- ☐ D. 1

Q24. The strip is HCF 6 times LCM 36. What product is that?

HCF 6 x LCM 36

- ☐ A. 6
- ☐ B. 36
- ☐ C. 18
- ☐ D. 216

Q25. For any two numbers, what does HCF x LCM always equal?

- ☐ A. The product of the two numbers
- ☐ B. The sum of the two numbers
- ☐ C. Always 1
- ☐ D. The difference of the two numbers

Q26. Two numbers are co-prime, like 8 and 9 (HCF=1). What is a fast way to find their LCM?

- ☐ A. Add the two numbers
- ☐ B. Multiply the two numbers together
- ☐ C. Divide the larger by the smaller
- ☐ D. Their LCM is always 1

Q27. The card is $5 \times ? = 45$, with HCF 1. What is b?

5

 x ? = 45

- ☐ A. 5
- ☐ B. 9
- ☐ C. 45
- ☐ D. 225

Q28. Kabir claims the LCM of any two DIFFERENT prime numbers is always their product. Is he right?

- ☐ **A.** No, primes never have an LCM
- ☐ **B.** Only true for 2 and 3
- ☐ **C.** Yes — different primes share no factors besides 1
- ☐ **D.** Only true for large primes

Q29. A number is a common multiple of 6 and 9 but is NOT their LCM. What must be true about it?

- ☐ **A.** It cannot exist
- ☐ **B.** It must be smaller than 18
- ☐ **C.** It must be odd
- ☐ **D.** It must be a bigger multiple of 18

Q30. Why does LCM answer bus-timing and blink-together questions, not just abstract lists?

- ☐ **A.** It finds the first moment two repeating cycles line up again
- ☐ **B.** It has nothing to do with repeating events
- ☐ **C.** It only works for odd numbers
- ☐ **D.** It finds the average of two cycles

Answer Key

- Q1:** (D) (d) 12. The smallest number appearing in both multiple lists.
- Q2:** (A) (a) A number you get multiplying 4 by a whole number.
- Q3:** (B) (b) 3, 6, 9, 12.
- Q4:** (D) (d) 15. The smallest common multiple of 3 and 5.
- Q5:** (C) (c) Least Common Multiple.
- Q6:** (C) (c) 7, 14, 21, 28.
- Q7:** (B) (b) 6. The smallest number in both multiple lists.
- Q8:** (B) (b) A number in the multiple list of two or more numbers.
- Q9:** (A) (a) Yes. $15 = 5 \times 3$.
- Q10:** (A) (a) Yes. 16 is a multiple of 4 ($4 \times 4 = 16$).
- Q11:** (A) (a) 9:12 am. The LCM of 4 and 6 is 12 minutes.
- Q12:** (A) (a) The larger number. Since 9 is already a multiple of 3, 9 is the LCM.
- Q13:** (B) (b) 24. Multiples of 6: 6,12,18,24. Multiples of 8: 8,16,24. Smallest shared: 24.
- Q14:** (A) (a) 12 seconds. The LCM of 3 and 4 is 12.
- Q15:** (D) (d) 10. Since 10 is itself a multiple of 5, it is the LCM.
- Q16:** (C) (c) 36. Multiples of 9: 9,18,27,36. Multiples of 12: 12,24,36. Smallest shared: 36.
- Q17:** (D) (d) 20. Since 4 and 5 share no smaller common multiple, the LCM is their product.
- Q18:** (C) (c) 24. The first multiple of 6 greater than 20.
- Q19:** (B) (b) 12. The smallest number that is a multiple of 2, 3, and 4.
- Q20:** (B) (b) 30. Multiples of 10: 10,20,30. Multiples of 15: 15,30. Smallest shared: 30.
- Q21:** (B) (b) 24 seconds. The LCM of 4, 6, and 8 is 24.
- Q22:** (A) (a) A multiple can never be smaller than its own number, so the LCM must be at least as large as the bigger of the two numbers.
- Q23:** (C) (c) 72. Since 8 and 9 are co-prime, their LCM is simply their product, $8 \times 9 = 72$.
- Q24:** (D) (d) 216. $\text{HCF} \times \text{LCM} = 6 \times 36 = 216$, which equals 12×18 — this is a general pattern for any two numbers.
- Q25:** (A) (a) The product of the two numbers. This holds true for any pair of numbers, a useful check when calculating both.
- Q26:** (B) (b) Multiply the two numbers together. When HCF is 1, the product of the numbers equals their LCM.
- Q27:** (B) (b) 9. Since $\text{HCF} \times \text{LCM} = a \times b$, and $\text{HCF} = 1$, $\text{LCM} = 45 = a \times b$, so $b = 45/5 = 9$.
- Q28:** (C) (c) Yes — different primes share no factors besides 1, making them co-prime, so their LCM is always their product.

Q29: (D) (d) It must be a multiple of 18, the LCM, but a larger one — every common multiple of two numbers is itself a multiple of their LCM.

Q30: (A) (a) It finds the first moment two repeating cycles line up again, since that moment must be a common multiple of both cycle lengths.

You've got this! Keep learning and shining! - Ruchi Math Coaching