Exercise 4

Finding Common Denominators

The **least common multiple (LCM)** of two numbers is the smallest number that is a multiple of both numbers.

Find the LCM for 6 and 9.

Find multiples of 6.	6: 6, 12, 18, 24, 30, ...
Find multiples of 9.	9: 9, 18, 27, 36, 45, ...
Choose the least common multiple.	18

The **least common denominator (LCD)** of two fractions is the LCM of their denominators. Rewrite fractions using the LCD and raising terms of one or both.

Rewrite $\frac{4}{6}$ and $\frac{1}{9}$ using the LCD.

Use the LCD you found above.	18
Raise $\frac{4}{6}$ to higher terms.	$\frac{4 \times 3}{6 \times 3} = \frac{12}{18}$
Raise $\frac{1}{9}$ to higher terms.	$\frac{1 \times 2}{9 \times 2} = \frac{2}{18}$

Write the least common multiple (LCM) for each pair of numbers.

1. 3 and 8
2. 4 and 6
3. 8 and 16
4. 10 and 12
5. 13 and 14
6. 8 and 4
7. 2 and 10
8. 2 and 3
9. 11 and 22

Rewrite the fractions in each set using their least common denominator (LCD).

10. $\frac{1}{2}$ and $\frac{3}{4}$
11. $\frac{4}{10}$ and $\frac{4}{6}$
12. $\frac{1}{3}$ and $\frac{2}{5}$
13. $\frac{2}{3}$ and $\frac{4}{8}$
14. $\frac{5}{8}$ and $\frac{1}{2}$
15. $\frac{2}{12}$ and $\frac{1}{4}$
16. $\frac{1}{4}$ and $\frac{1}{16}$
17. $\frac{1}{5}$ and $\frac{3}{10}$
18. $\frac{7}{8}$ and $\frac{3}{4}$
19. $\frac{1}{4}$, $\frac{2}{3}$, and $\frac{3}{12}$
20. $\frac{5}{8}$, $\frac{1}{2}$, and $\frac{3}{6}$
21. $\frac{4}{5}$, $\frac{2}{3}$, and $\frac{1}{4}$

Directions: Choose the one best answer to each item. Circle the number of the correct answer.

22. Julia and Keith both work for a landscaper. Julia gets paid every 3 days, and Keith gets paid every 4 days. Each person was paid on June 12. On what day will they again both get paid on the same day?

(1) June 15
(2) June 18
(3) June 21
(4) June 24
(5) June 27

23. Jean lives in Canada. Her mother calls every 5 days, and her sister calls every 3 days. Jean talked with both her mother and sister on October 15. On what day will Jean hear again from both people on the same day?

(1) October 18
(2) October 21
(3) October 24
(4) October 27
(5) October 30

24. Heath spent $\frac{3}{4}$ of his time talking on the phone with clients. Dawn spent $\frac{2}{3}$ of her time talking on the phone with clients. What least common denominator could they use to compare the amount of time they spent on the phone?

(1) 4
(2) 3
(3) 2
(4) 12
(5) 7

25. Tara has $\frac{1}{2}$ yard of lace. Diana has $\frac{2}{3}$ yard of the same lace. Which fractions show the amounts of lace using the LCD?

(1) $\frac{1}{2}$ yard and $\frac{2}{6}$ yard
(2) $\frac{1}{4}$ yard and $\frac{3}{4}$ yard
(3) $\frac{6}{12}$ yard and $\frac{12}{12}$ yard
(4) $\frac{3}{6}$ yard and $\frac{4}{6}$ yard
(5) $\frac{1}{2}$ yard and $\frac{2}{3}$ yard

26. Carl can swim underwater for $\frac{3}{8}$ of the pool's length. Dustin can swim underwater for $\frac{2}{3}$ of the pool's length. Which fractions show their distances using the LCD?

(1) $\frac{2}{8}$ and $\frac{3}{8}$
(2) $\frac{2}{24}$ and $\frac{3}{24}$
(3) $\frac{2}{18}$ and $\frac{6}{18}$
(4) $\frac{9}{24}$ and $\frac{16}{24}$
(5) $\frac{18}{48}$ and $\frac{32}{48}$

27. During a recent canoe race, Randy made it through $\frac{6}{8}$ of the course. Kevin completed $\frac{4}{5}$ of the course. Which fractions show their distances using the LCD?

(1) $\frac{6}{40}$ and $\frac{4}{40}$
(2) $\frac{30}{40}$ and $\frac{32}{40}$
(3) $\frac{15}{20}$ and $\frac{12}{20}$
(4) $\frac{12}{16}$ and $\frac{8}{10}$
(5) $\frac{6}{24}$ and $\frac{4}{24}$

28. Denise and Robbie were both off from work today. Denise has every fourth day off, and Robbie has every fifth day off. When will they both be off again on the same day?

(1) in 9 days
(2) in 16 days
(3) in 15 days
(4) in 25 days
(5) in 20 days