math Antics
Exercises

Name:

Date:

Finding a Common Denominator: LCD

1 Find the Least Common Multiple (LCM) of 3 and 4

×1	×2	×3	×4	×5	×6

2 Find the Least Common Denominator (LCD) of: $\frac{1}{4}$ and $\frac{1}{5}$

×1	×2	×3	×4	×5	×6

3 $\frac{5}{8} + \frac{3}{10}$

4 $\frac{1}{2} + \frac{3}{8}$

5 $\frac{7}{12} - \frac{1}{6}$

6 $\frac{1}{10} + \frac{1}{100}$

7 $\frac{2}{3} + \frac{1}{4} + \frac{1}{6}$

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Finding a Common Denominator: LCD

1 Find the Least Common Multiple (LCM) of 3 and 4

×1	×2	×3	×4	×5	×6
3	6	9	12		
4	8	12			

The LCM is 12

2 Find the Least Common Denominator (LCD) of: $\frac{1}{4}$ and $\frac{1}{5}$

×1	×2	×3	×4	×5	×6
4	8	12	16	20	
5	10	15	20		

The LCD is 20

3 $\frac{5}{8} + \frac{3}{10}$

×1	×2	×3	×4	×5	×6
8	16	24	32	40	
10	20	30	40		

$\frac{5}{5} \times \frac{5}{8} + \frac{3}{10} \times \frac{4}{4}$

$\frac{25}{40} + \frac{12}{40} = \frac{37}{40}$

4 $\frac{1}{2} + \frac{3}{8}$

$\frac{4}{4} \times \frac{1}{2} + \frac{3}{8}$

$\frac{4}{8} + \frac{3}{8} = \frac{7}{8}$

5 $\frac{7}{12} - \frac{1}{6}$

$\frac{7}{12} - \frac{1}{6} \times \frac{2}{2}$

$\frac{7}{12} - \frac{2}{12} = \frac{5}{12}$

6 $\frac{1}{10} + \frac{1}{100}$

$\frac{10}{10} \times \frac{1}{10} + \frac{1}{100}$

$\frac{10}{100} + \frac{1}{100} = \frac{11}{100}$

7 $\frac{2}{3} + \frac{1}{4} + \frac{1}{6}$

×1	×2	×3	×4	×5	×6
3	6	9	12		
4	8	12			
6	12				

$\left(\frac{4}{4}\right)\frac{2}{3} + \left(\frac{3}{3}\right)\frac{1}{4} + \left(\frac{2}{2}\right)\frac{1}{6}$

$\frac{8}{12} + \frac{3}{12} + \frac{2}{12} = \frac{13}{12}$ or $1\frac{1}{12}$

See Video for step-by-step solutions to each problem.

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Finding the Least Common Multiple of Two Numbers

F-LCD 1

Instructions: For each pair of numbers, fill in a row of the multiples chart by multiplying by 1, 2, 3, 4, etc. As soon as you find a common multiple, circle it. The circled number is the Least Common Multiple (or LCM). You do **not** need to fill up the whole table.

1 2 and 3

×1	×2	×3	×4	×5	×6
2	4	(6)			
3	(6)				

2 3 and 4

×1	×2	×3	×4	×5	×6

3 2 and 10

×1	×2	×3	×4	×5	×6

4 8 and 10

×1	×2	×3	×4	×5	×6

5 4 and 5

×1	×2	×3	×4	×5	×6

6 4 and 6

×1	×2	×3	×4	×5	×6

7 6 and 8

×1	×2	×3	×4	×5	×6

8 3 and 5

×1	×2	×3	×4	×5	×6

9 12 and 15

×1	×2	×3	×4	×5	×6

10 6 and 21

×1	×2	×3	×4	×5	×6	×7

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Finding the Least Common Denominator (LCD)

F-LCD 2

Instructions: Change these 'un-like' fractions into 'like' fractions using the LCD method. Use the multiples table to help find the LCM of the bottom numbers.

1 $\frac{3}{4}$ $\frac{1}{6}$

$\frac{3}{3} \times \frac{3}{4}$ $\frac{1}{6} \times \frac{2}{2}$

$\frac{9}{12}$ $\frac{2}{12}$

4 and 6

×1	×2	×3	×4	×5	×6
4	8	12			
6	12				

LCM becomes the LCD

2 $\frac{1}{2}$ $\frac{7}{10}$

$\frac{\quad}{\quad} \times \frac{1}{2}$ $\frac{7}{10} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$

2 and 10

×1	×2	×3	×4	×5	×6

3 $\frac{5}{6}$ $\frac{3}{8}$

$\frac{\quad}{\quad} \times \frac{5}{6}$ $\frac{3}{8} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$

6 and 8

×1	×2	×3	×4	×5	×6

4 $\frac{3}{10}$ $\frac{3}{8}$

$\frac{\quad}{\quad} \times \frac{3}{10}$ $\frac{3}{8} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$

10 and 8

×1	×2	×3	×4	×5	×6

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Adding & Subtracting Fractions by the LCD Method

F-LCD 3

Instructions: Add or subtract these 'un-like' fractions. Start by using the LCD Method to turn them into 'like' fractions. You do **not** need to simplify your answers.

1 $\frac{2}{3} + \frac{7}{9}$

$\frac{3}{3} \times \frac{2}{3} + \frac{7}{9} \times \frac{1}{1}$

$\frac{6}{9} + \frac{7}{9} = \frac{13}{9}$

3 and 9

×1	×2	×3	×4	×5	×6
3	6	9			
9					

2 $\frac{4}{9} + \frac{1}{12}$

$\frac{\quad}{\quad} \times \frac{4}{9} + \frac{1}{12} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

9 and 12

×1	×2	×3	×4	×5	×6

3 $\frac{7}{12} - \frac{4}{15}$

$\frac{\quad}{\quad} \times \frac{7}{12} - \frac{4}{15} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} - \frac{\quad}{\quad} = \frac{\quad}{\quad}$

12 and 15

×1	×2	×3	×4	×5	×6

4 $\frac{3}{6} - \frac{3}{14}$

$\frac{\quad}{\quad} \times \frac{3}{6} - \frac{3}{14} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} - \frac{\quad}{\quad} = \frac{\quad}{\quad}$

6 and 14

×1	×2	×3	×4	×5	×6	×7

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When 'Un-Like' Denominators are Multiples

F-LCD 4

Instructions: Add these 'un-like' fractions using the LCD method. In each problem, one bottom number is a multiple of the other. That means you won't need a table to find the LCM because the bigger bottom number **is** the LCM. You do **not** need to simplify your answers.

1 $\frac{1}{2} + \frac{5}{6}$

$\frac{3}{3} \times \frac{1}{2} + \frac{5}{6}$

$\frac{3}{6} + \frac{5}{6} = \frac{8}{6}$

2 $\frac{1}{8} + \frac{3}{4}$

$\frac{1}{8} + \frac{3}{4} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

3 $\frac{2}{3} + \frac{2}{9}$

$\frac{\quad}{\quad} \times \frac{2}{3} + \frac{2}{9}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

4 $\frac{5}{12} + \frac{2}{6}$

$\frac{5}{12} + \frac{2}{6} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

5 $\frac{3}{4} + \frac{5}{16}$

$\frac{\quad}{\quad} \times \frac{3}{4} + \frac{5}{16}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

6 $\frac{9}{25} + \frac{3}{5}$

$\frac{9}{25} + \frac{3}{5} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

7 $\frac{4}{3} + \frac{8}{15}$

$\frac{\quad}{\quad} \times \frac{4}{3} + \frac{8}{15}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

8 $\frac{5}{21} + \frac{2}{3}$

$\frac{5}{21} + \frac{2}{3} \times \frac{\quad}{\quad}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

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Un-Guided Practice with the LCD Method

F-LCD 5

Instructions: Add or subtract these 'un-like' fractions using the LCD method you learned in the video. Show your work and you do **not** need to simplify your answers.

1 $\frac{2}{3} + \frac{1}{6}$

$\frac{2}{2} \times \frac{2}{3} + \frac{1}{6}$

$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$

2 $\frac{7}{12} - \frac{1}{6}$

3 $\frac{15}{24} + \frac{5}{8}$

4 $\frac{9}{10} - \frac{1}{5}$

5 $\frac{3}{8} + \frac{3}{2}$

6 $\frac{3}{7} + \frac{5}{14}$

7 $\frac{5}{3} - \frac{3}{4}$

8 $\frac{4}{6} - \frac{3}{8}$

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Un-Guided Practice with the LCD Method - Set 2

F-LCD 6

Instructions: Add or subtract these 'un-like' fractions using the LCD method you learned in the video. Show your work and you do **not** need to simplify your answers.

1 $\frac{1}{2} + \frac{3}{14}$

$\frac{7}{7} \times \frac{1}{2} + \frac{3}{14}$

$\frac{7}{14} + \frac{3}{14} = \frac{10}{14}$

2 $\frac{16}{30} + \frac{1}{10}$

3 $\frac{7}{16} - \frac{1}{4}$

4 $\frac{8}{11} - \frac{5}{22}$

5 $\frac{4}{5} + \frac{2}{3}$

6 $\frac{5}{6} - \frac{4}{30}$

7 $\frac{5}{9} - \frac{10}{27}$

8 $\frac{7}{9} - \frac{5}{12}$

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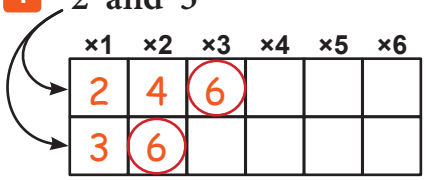
Finding the Least Common Multiple of Two Numbers

F-LCD 1

Instructions: For each pair of numbers, fill in a row of the multiples chart by multiplying by 1, 2, 3, 4, etc. As soon as you find a common multiple, circle it. The circled number is the Least Common Multiple (or LCM). You do **not** need to fill up the whole table.

1 2 and 3



×1	×2	×3	×4	×5	×6
2	4	(6)			
3	(6)				

2 3 and 4

×1	×2	×3	×4	×5	×6
3	6	9	(12)		
4	8	(12)			

3 2 and 10

×1	×2	×3	×4	×5	×6
2	4	6	8	(10)	
(10)					

4 8 and 10

×1	×2	×3	×4	×5	×6
8	16	24	32	(40)	
10	20	30	(40)		

5 4 and 5

×1	×2	×3	×4	×5	×6
4	8	12	16	(20)	
5	10	15	(20)		

6 4 and 6

×1	×2	×3	×4	×5	×6
4	8	(12)			
6	(12)				

7 6 and 8

×1	×2	×3	×4	×5	×6
6	12	18	(24)		
8	16	(24)			

8 3 and 5

×1	×2	×3	×4	×5	×6
3	6	9	12	(15)	
5	10	(15)			

9 12 and 15

×1	×2	×3	×4	×5	×6
12	24	36	48	(60)	
15	30	45	(60)		

10 6 and 21

×1	×2	×3	×4	×5	×6	×7
6	12	18	24	30	36	(42)
21	(42)					

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Finding the Least Common Denominator (LCD)

F-LCD 2

Instructions: Change these 'un-like' fractions into 'like' fractions using the LCD method. Use the multiples table to help find the LCM of the bottom numbers.

1 $\frac{3}{4}$ $\frac{1}{6}$

$\frac{3}{3} \times \frac{3}{4}$ $\frac{1}{6} \times \frac{2}{2}$

$\frac{9}{12}$ $\frac{2}{12}$

4 and 6

×1	×2	×3	×4	×5	×6
4	8	12			
6	12				

LCM becomes the LCD

2 $\frac{1}{2}$ $\frac{7}{10}$

$\frac{5}{5} \times \frac{1}{2}$ $\frac{7}{10} \times \frac{1}{1}$

$\frac{5}{10}$ $\frac{7}{10}$

2 and 10

×1	×2	×3	×4	×5	×6
2	4	6	8	10	
10					

3 $\frac{5}{6}$ $\frac{3}{8}$

$\frac{4}{4} \times \frac{5}{6}$ $\frac{3}{8} \times \frac{3}{3}$

$\frac{20}{24}$ $\frac{9}{24}$

6 and 8

×1	×2	×3	×4	×5	×6
6	12	18	24		
8	16	24			

4 $\frac{3}{10}$ $\frac{3}{8}$

$\frac{4}{4} \times \frac{3}{10}$ $\frac{3}{8} \times \frac{5}{5}$

$\frac{12}{40}$ $\frac{15}{40}$

10 and 8

×1	×2	×3	×4	×5	×6
10	20	30	40		
8	16	24	32	40	

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Adding & Subtracting Fractions by the LCD Method

F-LCD 3

Instructions: Add or subtract these 'un-like' fractions. Start by using the LCD Method to turn them into 'like' fractions. You do **not** need to simplify your answers.

1 $\frac{2}{3} + \frac{7}{9}$

$\frac{3}{3} \times \frac{2}{3} + \frac{7}{9} \times \frac{1}{1}$

$\frac{6}{9} + \frac{7}{9} = \frac{13}{9}$

3 and 9

×1	×2	×3	×4	×5	×6
3	6	9			
9					

2 $\frac{4}{9} + \frac{1}{12}$

$\frac{4}{4} \times \frac{4}{9} + \frac{1}{12} \times \frac{3}{3}$

$\frac{16}{36} + \frac{3}{36} = \frac{19}{36}$

9 and 12

×1	×2	×3	×4	×5	×6
9	18	27	36		
12	24	36			

3 $\frac{7}{12} - \frac{4}{15}$

$\frac{5}{5} \times \frac{7}{12} - \frac{4}{15} \times \frac{4}{4}$

$\frac{35}{60} - \frac{16}{60} = \frac{19}{60}$

12 and 15

×1	×2	×3	×4	×5	×6
12	24	36	48	60	
15	30	45	60		

4 $\frac{3}{6} - \frac{3}{14}$

$\frac{7}{7} \times \frac{3}{6} - \frac{3}{14} \times \frac{3}{3}$

$\frac{21}{42} - \frac{9}{42} = \frac{12}{42}$

6 and 14

×1	×2	×3	×4	×5	×6	×7
6	12	18	24	30	36	42
14	28	42				

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When 'Un-Like' Denominators are Multiples

F-LCD 4

Instructions: Add these 'un-like' fractions using the LCD method. In each problem, one bottom number is a multiple of the other. That means you won't need a table to find the LCM because the bigger bottom number **is** the LCM. You do **not** need to simplify your answers.

1 $\frac{1}{2} + \frac{5}{6}$

$\frac{3}{3} \times \frac{1}{2} + \frac{5}{6}$

$\frac{3}{6} + \frac{5}{6} = \frac{8}{6}$

2 $\frac{1}{8} + \frac{3}{4}$

$\frac{1}{8} + \frac{3}{4} \times \frac{2}{2}$

$\frac{1}{8} + \frac{6}{8} = \frac{7}{8}$

3 $\frac{2}{3} + \frac{2}{9}$

$\frac{3}{3} \times \frac{2}{3} + \frac{2}{9}$

$\frac{6}{9} + \frac{2}{9} = \frac{8}{9}$

4 $\frac{5}{12} + \frac{2}{6}$

$\frac{5}{12} + \frac{2}{6} \times \frac{2}{2}$

$\frac{5}{12} + \frac{4}{12} = \frac{9}{12}$

5 $\frac{3}{4} + \frac{5}{16}$

$\frac{4}{4} \times \frac{3}{4} + \frac{5}{16}$

$\frac{12}{16} + \frac{5}{16} = \frac{17}{16}$

6 $\frac{9}{25} + \frac{3}{5}$

$\frac{9}{25} + \frac{3}{5} \times \frac{5}{5}$

$\frac{9}{25} + \frac{15}{25} = \frac{24}{25}$

7 $\frac{4}{3} + \frac{8}{15}$

$\frac{5}{5} \times \frac{4}{3} + \frac{8}{15}$

$\frac{20}{15} + \frac{8}{15} = \frac{28}{15}$

8 $\frac{5}{21} + \frac{2}{3}$

$\frac{5}{21} + \frac{2}{3} \times \frac{7}{7}$

$\frac{5}{21} + \frac{14}{21} = \frac{19}{21}$

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Un-Guided Practice with the LCD Method

F-LCD 5

Instructions: Add or subtract these 'un-like' fractions using the LCD method you learned in the video. Show your work and you do **not** need to simplify your answers.

1 $\frac{2}{3} + \frac{1}{6}$

$\frac{2}{2} \times \frac{2}{3} + \frac{1}{6}$

$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$

2 $\frac{7}{12} - \frac{1}{6}$

$\frac{7}{12} - \frac{1}{6} \times \frac{2}{2}$

$\frac{7}{12} - \frac{2}{12} = \frac{5}{12}$

3 $\frac{15}{24} + \frac{5}{8}$

$\frac{15}{24} + \frac{5}{8} \times \frac{3}{3}$

$\frac{15}{24} + \frac{15}{24} = \frac{30}{24}$

4 $\frac{9}{10} - \frac{1}{5}$

$\frac{9}{10} - \frac{1}{5} \times \frac{2}{2}$

$\frac{9}{10} - \frac{2}{10} = \frac{7}{10}$

5 $\frac{3}{8} + \frac{3}{2}$

$\frac{3}{8} + \frac{3}{2} \times \frac{4}{4}$

$\frac{3}{8} + \frac{12}{8} = \frac{15}{8}$

6 $\frac{3}{7} + \frac{5}{14}$

$\frac{2}{2} \times \frac{3}{7} + \frac{5}{14}$

$\frac{6}{14} + \frac{5}{14} = \frac{11}{14}$

7 $\frac{5}{3} - \frac{3}{4}$

LCM

3	4
6	8
9	(12)
(12)	

$\frac{4}{4} \times \frac{5}{3} - \frac{3}{4} \times \frac{3}{3}$

$\frac{20}{12} - \frac{9}{12} = \frac{11}{12}$

8 $\frac{4}{6} - \frac{3}{8}$

LCM

6	8
12	16
18	(24)
(24)	

$\frac{4}{4} \times \frac{4}{6} - \frac{3}{8} \times \frac{3}{3}$

$\frac{16}{24} - \frac{9}{24} = \frac{7}{24}$

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Un-Guided Practice with the LCD Method - Set 2

F-LCD 6

Instructions: Add or subtract these 'un-like' fractions using the LCD method you learned in the video. Show your work and you do **not** need to simplify your answers.

1 $\frac{1}{2} + \frac{3}{14}$

$\frac{7}{7} \times \frac{1}{2} + \frac{3}{14}$

$\frac{7}{14} + \frac{3}{14} = \frac{10}{14}$

2 $\frac{16}{30} + \frac{1}{10}$

$\frac{16}{30} + \frac{1}{10} \times \frac{3}{3}$

$\frac{16}{30} + \frac{3}{30} = \frac{19}{30}$

3 $\frac{7}{16} - \frac{1}{4}$

$\frac{7}{16} - \frac{1}{4} \times \frac{4}{4}$

$\frac{7}{16} - \frac{4}{16} = \frac{3}{16}$

4 $\frac{8}{11} - \frac{5}{22}$

$\frac{2}{2} \times \frac{8}{11} - \frac{5}{22}$

$\frac{16}{22} - \frac{5}{22} = \frac{11}{22}$

5 $\frac{4}{5} + \frac{2}{3}$

$\frac{3}{3} \times \frac{4}{5} + \frac{2}{3} \times \frac{5}{5}$

$\frac{12}{15} + \frac{10}{15} = \frac{22}{15}$

LCM

5	3
10	6
(15)	9
20	12
	(15)

6 $\frac{5}{6} - \frac{4}{30}$

$\frac{5}{5} \times \frac{5}{6} - \frac{4}{30}$

$\frac{25}{30} - \frac{4}{30} = \frac{21}{30}$

7 $\frac{5}{9} - \frac{10}{27}$

$\frac{3}{3} \times \frac{5}{9} - \frac{10}{27}$

$\frac{15}{27} - \frac{10}{27} = \frac{5}{27}$

8 $\frac{7}{9} - \frac{5}{12}$

$\frac{4}{4} \times \frac{7}{9} - \frac{5}{12} \times \frac{3}{3}$

$\frac{28}{36} - \frac{15}{36} = \frac{13}{36}$

LCM

9	12
18	24
27	(36)
(36)	

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