

Lowest (Least) Common Multiples, and Addition and Subtraction of Fractions

Find the Lowest Common Multiple of the following pairs of numbers.

- If the numbers do not have a common factor, just multiply them together for the LCM;
- If the larger number is a multiple of the smaller number, that number is the LCM;
- Otherwise, use the method shown in the video to find the Highest Common Factor (HCF), and then find the LCM.

	A. Do the numbers have a common factor?	B. Is the larger number a multiple of the smaller?	C. Find the HCF, then find the LCM.
Example 1: 4, 7	☐ Yes: next column ☒ No: Find LCM LCM = $4 \times 7 = 28$	☐ Yes: Find LCM ☐ No: next column	
Example 2: 6, 30	☒ Yes: next column ☐ No: Find LCM	☒ Yes: Find LCM ☐ No: next column $30 = 6 \times 5$ LCM = 30	
Example 3: 24, 54	☒ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☒ No: next column	2 24 54 3 12 27 1 4 9 HCF = $2 \times 3 \times 1 = 6$ LCM = $6 \times 4 \times 9 = 6 \times 36 = 216$
1) 6, 11	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
2) 15, 30	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
3) 15, 20	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
4) 27, 72	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
5) 80, 10	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
6) 15, 27	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	

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7) 8, 32	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
8) 20, 16	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
9) 8, 12	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	
10) 7, 8	☐ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☐ No: next column	

Write these fractions over their Lowest Common Denominator (Remember: LCD = LCM) and perform the addition or subtraction. Keep the answer over the same denominator (that is, don't reduce).

$$11) \frac{1}{4} + \frac{2}{3} =$$

$$12) \frac{1}{4} + \frac{5}{8} =$$

$$13) \frac{5}{12} + \frac{3}{20} =$$

$$14) \frac{1}{6} + \frac{5}{18} =$$

$$15) \frac{1}{6} + \frac{3}{8} =$$

Note: Subtractions from here on.

$$16) \frac{3}{4} - \frac{1}{6} =$$

$$17) \frac{7}{12} - \frac{4}{9} =$$

$$18) \frac{15}{40} - \frac{5}{24} =$$

$$19) \frac{7}{8} - \frac{3}{4} =$$

$$20) \frac{7}{9} - \frac{3}{5} =$$

I affirm that this test was done under test conditions. Parent signature: _____

Lowest (Least) Common Multiples, and Addition and Subtraction of Fractions – Answers

Do not give this to the student.

1) 6, 11	☐ Yes ☒ No $LCM = 6 \times 11 = 66$	☐ Yes: Find LCM ☐ No: next column	
2) 15, 30	☒ Yes: next column ☐ No: Find LCM	☒ Yes: Find LCM ☐ No: next column $30 = 15 \times 2$ $LCM = 30$	
3) 15, 20	☒ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☒ No: next column	$\begin{array}{r} 5 \overline{) 15 \quad 20} \\ 1 \overline{) 3 \quad 4} \\ \underline{3 \quad 4} \end{array}$ $HCF = 5 \times 1 = 5$ $LCM = 5 \times 3 \times 4 = 5 \times 12 = 60$
4) 27, 72	☒ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☒ No: next column	$\begin{array}{r} 3 \overline{) 27 \quad 72} \\ 3 \overline{) 9 \quad 24} \\ 1 \overline{) 3 \quad 8} \\ \underline{3 \quad 8} \end{array}$ $HCF = 3 \times 3 \times 1 = 9$ $LCM = 9 \times 3 \times 8 = 9 \times 24$
5) 80, 10	☒ Yes: next column ☐ No: Find LCM	☒ Yes: Find LCM ☐ No: next column $80 = 10 \times 8$ $LCM = 80$	<i>You could also choose 9 and do this in one step.</i>
6) 15, 27	☒ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☒ No: next column	$\begin{array}{r} 3 \overline{) 15 \quad 27} \\ 1 \overline{) 5 \quad 9} \\ \underline{5 \quad 9} \end{array}$ $HCF = 3 \times 1 = 3$ $LCM = 3 \times 5 \times 9 = 3 \times 45 = 135$
7) 8, 32	☒ Yes: next column ☐ No: Find LCM	☒ Yes: Find LCM ☐ No: next column $32 = 8 \times 4$ $LCM = 32$	<i>You could also choose 4 and do this in one step.</i>
8) 20, 16	☒ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☒ No: next column	$\begin{array}{r} 2 \overline{) 20 \quad 16} \\ 2 \overline{) 10 \quad 8} \\ 1 \overline{) 5 \quad 4} \\ \underline{5 \quad 4} \end{array}$ $HCF = 2 \times 2 \times 1 = 4$ $LCM = 4 \times 5 \times 4 = 4 \times 20 = 80$
9) 8, 12	☒ Yes: next column ☐ No: Find LCM	☐ Yes: Find LCM ☒ No: next column	$\begin{array}{r} 2 \overline{) 8 \quad 12} \\ 2 \overline{) 4 \quad 6} \\ 1 \overline{) 2 \quad 3} \\ \underline{2 \quad 3} \end{array}$ $HCF = 2 \times 2 \times 1 = 4$ $LCM = 4 \times 2 \times 3 = 4 \times 6 = 24$
10) 7, 8	☐ Yes: next column ☒ No: Find LCM $LCM = 7 \times 8 = 56$	☐ Yes: Find LCM ☐ No: next column	<i>You could also choose 4 and do this in one step.</i>

Lowest (Least) Common Multiples, and Addition and Subtraction of Fractions – Answers

Do not give this to the student.

$$11) \frac{1}{4} + \frac{2}{3} = \frac{3}{12} + \frac{8}{12} = \frac{11}{12}$$

$$12) \frac{1}{4} + \frac{5}{8} = \frac{2}{8} + \frac{5}{8} = \frac{7}{8}$$

$$13) \frac{5}{12} + \frac{3}{20} = \frac{25}{60} + \frac{9}{60} = \frac{34}{60}$$

$$14) \frac{1}{6} + \frac{5}{18} = \frac{3}{18} + \frac{5}{18} = \frac{8}{18}$$

$$15) \frac{1}{6} + \frac{3}{8} = \frac{4}{24} + \frac{9}{24} = \frac{13}{24}$$

$$16) \frac{3}{4} - \frac{1}{6} = \frac{9}{12} - \frac{2}{12} = \frac{7}{12}$$

$$17) \frac{7}{12} - \frac{4}{9} = \frac{21}{36} - \frac{16}{36} = \frac{5}{36}$$

$$18) \frac{15}{40} - \frac{5}{24} = \frac{45}{120} - \frac{25}{120} = \frac{20}{120}$$

$$19) \frac{7}{8} - \frac{3}{4} = \frac{7}{8} - \frac{6}{8} = \frac{1}{8}$$

$$20) \frac{7}{9} - \frac{3}{5} = \frac{35}{45} - \frac{27}{45} = \frac{8}{45}$$