

LESSON 21

Addition Of Unlike Fractions

(Fractions With A Lowest Common Denominator)

The sum of two or more fractions having a lowest common denominator lower than the product of the denominators can be found by making equivalent fractions and adding the numerators.

Example : Add

$$\frac{5}{12} + \frac{2}{9}$$

Solution:

$$\frac{5}{12} \times \frac{3}{3} = \frac{15}{36}$$

$$\frac{2}{9} \times \frac{4}{4} = \frac{8}{36}$$

$$\frac{23}{36}$$

Add Each Pair Of Fractions By Finding Equivalent Fractions

1. $\frac{1}{6} = \frac{4}{24}$ $+$ $\frac{3}{9} = \frac{8}{24}$ <hr style="width: 100%;"/> $\frac{13}{24}$	6. $\frac{13}{14} = \frac{39}{42}$ $+$ $\frac{4}{8} = \frac{21}{42}$ <hr style="width: 100%;"/> $\frac{47}{42}$	11. $\frac{2}{9} = \frac{10}{45}$ $+$ $\frac{4}{12} = \frac{15}{45}$ <hr style="width: 100%;"/> $\frac{22}{45}$
2. $\frac{1}{9} = \frac{2}{18}$ $+$ $\frac{1}{3} = \frac{6}{18}$ <hr style="width: 100%;"/> $\frac{5}{18}$	7. $\frac{5}{24} = \frac{20}{96}$ $+$ $\frac{7}{21} = \frac{32}{96}$ <hr style="width: 100%;"/> $\frac{41}{96}$	12. $\frac{1}{12} = \frac{3}{36}$ $+$ $\frac{5}{9} = \frac{20}{36}$ <hr style="width: 100%;"/> $\frac{23}{36}$
3. $\frac{3}{10} = \frac{9}{30}$ $+$ $\frac{4}{8} = \frac{15}{30}$ <hr style="width: 100%;"/> $\frac{17}{30}$	8. $\frac{2}{15} = \frac{8}{60}$ $+$ $\frac{3}{9} = \frac{20}{60}$ <hr style="width: 100%;"/> $\frac{17}{60}$	13. $\frac{5}{8} = \frac{25}{40}$ $+$ $\frac{3}{10} = \frac{12}{40}$ <hr style="width: 100%;"/> $\frac{37}{40}$
4. $\frac{1}{4} = \frac{3}{12}$ $+$ $\frac{1}{2} = \frac{6}{12}$ <hr style="width: 100%;"/> $\frac{5}{12}$	9. $\frac{1}{6} = \frac{5}{30}$ $+$ $\frac{3}{9} = \frac{10}{30}$ <hr style="width: 100%;"/> $\frac{14}{30} = \frac{7}{15}$	14. $\frac{1}{20} = \frac{5}{100}$ $+$ $\frac{4}{25} = \frac{16}{100}$ <hr style="width: 100%;"/> $\frac{21}{100}$
5. $\frac{7}{20} = \frac{21}{60}$ $+$ $\frac{1}{4} = \frac{15}{60}$ <hr style="width: 100%;"/> $\frac{25}{60} = \frac{5}{12}$	10. $\frac{5}{12} = \frac{25}{60}$ $+$ $\frac{1}{3} = \frac{20}{60}$ <hr style="width: 100%;"/> $\frac{28}{60} = \frac{7}{15}$	15. $\frac{3}{8} = \frac{9}{24}$ $+$ $\frac{1}{2} = \frac{12}{24}$ <hr style="width: 100%;"/> $\frac{11}{24}$

Add Each Pair Of Fractions By Finding Equivalent Fractions

<p>16.</p> $\frac{5}{14} + \frac{2}{21}$ $\frac{15}{42} + \frac{4}{42} = \frac{19}{42}$	<p>21.</p> $\frac{1}{8} + \frac{3}{10}$ $\frac{5}{40} + \frac{12}{40} = \frac{17}{40}$	<p>26.</p> $\frac{2}{15} + \frac{1}{18}$ $\frac{12}{90} + \frac{5}{90} = \frac{17}{90}$
<p>17.</p> $\frac{1}{10} + \frac{5}{12}$ $\frac{6}{60} + \frac{25}{60} = \frac{31}{60}$	<p>22.</p> $\frac{2}{9} + \frac{1}{6}$ $\frac{4}{18} + \frac{3}{18} = \frac{7}{18}$	<p>27.</p> $\frac{3}{16} + \frac{3}{20}$ $\frac{15}{80} + \frac{12}{80} = \frac{27}{80}$
<p>18.</p> $\frac{3}{20} + \frac{2}{15}$ $\frac{9}{60} + \frac{8}{60} = \frac{17}{60}$	<p>23.</p> $\frac{3}{16} + \frac{1}{24}$ $\frac{9}{48} + \frac{2}{48} = \frac{11}{48}$	<p>28.</p> $\frac{2}{15} + \frac{5}{12}$ $\frac{8}{60} + \frac{25}{60} = \frac{33}{60} = \frac{11}{20}$
<p>19.</p> $\frac{1}{10} + \frac{1}{6}$ $\frac{3}{30} + \frac{5}{30} = \frac{8}{30} = \frac{4}{15}$	<p>24.</p> $\frac{1}{8} + \frac{1}{6}$ $\frac{3}{24} + \frac{4}{24} = \frac{7}{24}$	<p>29.</p> $\frac{5}{24} + \frac{1}{18}$ $\frac{15}{72} + \frac{4}{72} = \frac{19}{72}$
<p>20.</p> $\frac{2}{9} + \frac{1}{12}$ $\frac{8}{36} + \frac{3}{36} = \frac{11}{36}$	<p>25.</p> $\frac{7}{30} + \frac{1}{18}$ $\frac{21}{90} + \frac{5}{90} = \frac{26}{90} = \frac{13}{45}$	<p>30.</p> $\frac{1}{12} + \frac{3}{16}$ $\frac{4}{48} + \frac{9}{48} = \frac{13}{48}$

Add Each Pair Of Unlike Fractions By Making Common Denominators

<p>31.</p> $\frac{1}{8} + \frac{5}{6}$ $\frac{3 + 20}{24} = \frac{23}{24}$	<p>36.</p> $\frac{5}{12} + \frac{1}{18}$ $\frac{15 + 2}{36} = \frac{17}{36}$	<p>41.</p> $\frac{1}{12} + \frac{1}{20}$ $\frac{5 + 3}{60} = \frac{8}{60} = \frac{2}{15}$
<p>32.</p> $\frac{1}{12} + \frac{3}{10}$ $\frac{5 + 18}{60} = \frac{23}{60}$	<p>37.</p> $\frac{1}{9} + \frac{5}{6}$ $\frac{2 + 15}{18} = \frac{17}{18}$	<p>42.</p> $\frac{1}{9} + \frac{1}{12}$ $\frac{4 + 3}{36} = \frac{7}{36}$
<p>33.</p> $\frac{3}{8} + \frac{1}{6}$ $\frac{9 + 4}{24} = \frac{13}{24}$	<p>38.</p> $\frac{2}{21} + \frac{1}{14}$ $\frac{4 + 3}{42} = \frac{7}{42} = \frac{1}{6}$	<p>43.</p> $\frac{2}{15} + \frac{1}{12}$ $\frac{8 + 5}{60} = \frac{13}{60}$
<p>34.</p> $\frac{2}{9} + \frac{1}{15}$ $\frac{10 + 3}{45} = \frac{13}{45}$	<p>39.</p> $\frac{3}{10} + \frac{1}{15}$ $\frac{9 + 2}{30} = \frac{11}{30}$	<p>44.</p> $\frac{7}{24} + \frac{1}{32}$ $\frac{28 + 3}{96} = \frac{31}{96}$
<p>35.</p> $\frac{1}{20} + \frac{4}{15}$ $\frac{3 + 16}{60} = \frac{19}{60}$	<p>40.</p> $\frac{3}{10} + \frac{2}{15}$ $\frac{9 + 4}{30} = \frac{13}{30}$	<p>45.</p> $\frac{5}{18} + \frac{1}{30}$ $\frac{25 + 3}{90} = \frac{28}{90} = \frac{14}{45}$