

## LESSON 16

# Equivalent Fractions

A fraction is equivalent to a reduced fraction if an identity exists that makes them equal.

$$\frac{4}{5} = \frac{12}{15} \quad \text{Since} \quad \frac{4}{5} \times \frac{3}{3} = \frac{12}{15}$$

Example: Find a fraction equivalent to  $\frac{3}{4}$  with a denominator of 20

$$\frac{3}{4} \times \frac{\quad}{\quad} = \frac{\quad}{20}$$

Solution: Divide  $4 \overline{)20}$  and use  $\frac{5}{5}$  for an identity since  $4 \overline{)20}$

$$\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$$

# Find An Identity That Gives An Equivalent Fraction

1. $\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$	11. $\frac{1}{4} \times \frac{8}{8} = \frac{8}{32}$	21. $\frac{2}{9} \times \frac{4}{4} = \frac{8}{36}$
2. $\frac{2}{5} \times \frac{3}{3} = \frac{6}{15}$	12. $\frac{5}{8} \times \frac{5}{5} = \frac{25}{40}$	22. $\frac{1}{4} \times \frac{25}{25} = \frac{25}{100}$
3. $\frac{1}{6} \times \frac{3}{3} = \frac{3}{18}$	13. $\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$	23. $\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$
4. $\frac{3}{8} \times \frac{2}{2} = \frac{6}{16}$	14. $\frac{5}{6} \times \frac{3}{3} = \frac{15}{24}$	24. $\frac{4}{9} \times \frac{2}{2} = \frac{8}{18}$
5. $\frac{2}{9} \times \frac{3}{3} = \frac{6}{27}$	15. $\frac{4}{9} \times \frac{3}{3} = \frac{12}{27}$	25. $\frac{1}{8} \times \frac{8}{8} = \frac{8}{64}$
6. $\frac{1}{4} \times \frac{2}{2} = \frac{2}{8}$	16. $\frac{5}{9} \times \frac{5}{5} = \frac{25}{45}$	26. $\frac{5}{9} \times \frac{3}{3} = \frac{15}{27}$
7. $\frac{5}{8} \times \frac{2}{2} = \frac{10}{16}$	17. $\frac{2}{9} \times \frac{2}{2} = \frac{4}{18}$	27. $\frac{5}{6} \times \frac{5}{5} = \frac{25}{30}$
8. $\frac{4}{9} \times \frac{4}{4} = \frac{16}{36}$	18. $\frac{1}{4} \times \frac{4}{4} = \frac{4}{16}$	28. $\frac{3}{4} \times \frac{10}{10} = \frac{30}{40}$
9. $\frac{1}{8} \times \frac{2}{2} = \frac{2}{16}$	19. $\frac{2}{5} \times \frac{4}{4} = \frac{8}{20}$	29. $\frac{5}{9} \times \frac{5}{5} = \frac{25}{45}$
10. $\frac{5}{6} \times \frac{4}{4} = \frac{20}{24}$	20. $\frac{5}{9} \times \frac{2}{2} = \frac{10}{18}$	30. $\frac{5}{8} \times \frac{10}{10} = \frac{50}{80}$

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31. $\frac{3}{15} \times \frac{2}{2} = \frac{6}{30}$	41. $\frac{9}{40} \times \frac{2}{2} = \frac{18}{80}$	51. $\frac{3}{4} \times \frac{2}{2} = \frac{6}{8}$
32. $\frac{11}{25} \times \frac{2}{2} = \frac{22}{50}$	42. $\frac{3}{50} \times \frac{2}{2} = \frac{6}{100}$	52. $\frac{5}{7} \times \frac{3}{3} = \frac{15}{21}$
33. $\frac{19}{20} \times \frac{2}{2} = \frac{38}{40}$	43. $\frac{11}{25} \times \frac{3}{3} = \frac{33}{75}$	53. $\frac{2}{5} \times \frac{8}{8} = \frac{16}{40}$
34. $\frac{2}{25} \times \frac{4}{4} = \frac{8}{100}$	44. $\frac{8}{12} \times \frac{5}{5} = \frac{40}{60}$	54. $\frac{7}{9} \times \frac{2}{2} = \frac{14}{18}$
35. $\frac{7}{30} \times \frac{2}{2} = \frac{14}{60}$	45. $\frac{7}{30} \times \frac{3}{3} = \frac{21}{90}$	55. $\frac{5}{6} \times \frac{2}{2} = \frac{10}{12}$
36. $\frac{9}{10} \times \frac{7}{7} = \frac{63}{70}$	46. $\frac{3}{25} \times \frac{3}{3} = \frac{9}{75}$	56. $\frac{4}{7} \times \frac{5}{5} = \frac{20}{35}$
37. $\frac{11}{20} \times \frac{2}{2} = \frac{22}{40}$	47. $\frac{7}{50} \times \frac{2}{2} = \frac{14}{100}$	57. $\frac{8}{9} \times \frac{3}{3} = \frac{24}{27}$
38. $\frac{9}{25} \times \frac{2}{2} = \frac{18}{50}$	48. $\frac{3}{10} \times \frac{9}{9} = \frac{27}{90}$	58. $\frac{2}{3} \times \frac{6}{6} = \frac{12}{18}$
39. $\frac{7}{10} \times \frac{8}{8} = \frac{56}{80}$	49. $\frac{3}{20} \times \frac{3}{3} = \frac{9}{60}$	59. $\frac{1}{7} \times \frac{7}{7} = \frac{7}{49}$
40. $\frac{5}{12} \times \frac{3}{3} = \frac{15}{36}$	50. $\frac{7}{15} \times \frac{4}{4} = \frac{28}{60}$	60. $\frac{1}{4} \times \frac{5}{5} = \frac{5}{20}$

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61. $\frac{3}{8} \times \frac{4}{4} = \frac{12}{32}$	71. $\frac{5}{12} \times \frac{7}{7} = \frac{35}{84}$	81. $\frac{5}{18} \times \frac{3}{3} = \frac{15}{54}$
62. $\frac{8}{9} \times \frac{6}{6} = \frac{48}{54}$	72. $\frac{2}{13} \times \frac{4}{4} = \frac{8}{52}$	82. $\frac{7}{19} \times \frac{4}{4} = \frac{28}{76}$
63. $\frac{3}{7} \times \frac{8}{8} = \frac{24}{56}$	73. $\frac{11}{16} \times \frac{4}{4} = \frac{44}{64}$	83. $\frac{16}{17} \times \frac{3}{3} = \frac{48}{51}$
64. $\frac{4}{5} \times \frac{4}{4} = \frac{16}{20}$	74. $\frac{9}{11} \times \frac{7}{7} = \frac{63}{77}$	84. $\frac{3}{16} \times \frac{6}{6} = \frac{18}{96}$
65. $\frac{3}{7} \times \frac{9}{9} = \frac{27}{63}$	75. $\frac{5}{17} \times \frac{3}{3} = \frac{15}{51}$	85. $\frac{5}{13} \times \frac{7}{7} = \frac{35}{91}$
66. $\frac{2}{9} \times \frac{5}{5} = \frac{10}{45}$	76. $\frac{5}{14} \times \frac{4}{4} = \frac{20}{56}$	86. $\frac{4}{19} \times \frac{5}{5} = \frac{20}{95}$
67. $\frac{2}{7} \times \frac{8}{8} = \frac{16}{56}$	77. $\frac{5}{23} \times \frac{4}{4} = \frac{20}{92}$	87. $\frac{11}{17} \times \frac{4}{4} = \frac{44}{68}$
68. $\frac{2}{5} \times \frac{9}{9} = \frac{18}{45}$	78. $\frac{3}{19} \times \frac{2}{2} = \frac{6}{38}$	88. $\frac{7}{13} \times \frac{6}{6} = \frac{42}{78}$
69. $\frac{4}{9} \times \frac{8}{8} = \frac{32}{72}$	79. $\frac{8}{17} \times \frac{4}{4} = \frac{32}{68}$	89. $\frac{11}{12} \times \frac{8}{8} = \frac{88}{96}$
70. $\frac{5}{6} \times \frac{7}{7} = \frac{35}{42}$	80. $\frac{3}{13} \times \frac{2}{2} = \frac{6}{26}$	90. $\frac{7}{16} \times \frac{4}{4} = \frac{28}{64}$