

< Study Tips >

- Get to know your fellow students. If you are an online student, ask your instructor how you can communicate with other online students.
- Set your goals, make plans, and schedule your time. Before you know it, you will have the discipline that is necessary for success.

Reading and Writing After reading this section write out the answers to these questions. Use complete sentences.

1. What are equivalent fractions?
2. How can you find all fractions that are equivalent to a given fraction?
3. What does it mean to reduce a fraction to lowest terms?
4. For which operations with fractions are you required to have common denominators? Why?
5. How do you convert a fraction to a decimal?
6. How do you convert a percent to a fraction?

< 1 > Equivalent Fractions

Build up each fraction or whole number so that it is equivalent to the fraction with the indicated denominator. See Example 1.

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|-----------------------------------|-----------------------------------|------------------------------------|
| 7. $\frac{3}{4} = \frac{?}{8}$ | 8. $\frac{5}{7} = \frac{?}{21}$ | 9. $\frac{8}{3} = \frac{?}{12}$ |
| 10. $\frac{7}{2} = \frac{?}{8}$ | 11. $5 = \frac{?}{2}$ | 12. $9 = \frac{?}{3}$ |
| 13. $\frac{3}{4} = \frac{?}{100}$ | 14. $\frac{1}{2} = \frac{?}{100}$ | 15. $\frac{3}{10} = \frac{?}{100}$ |
| 16. $\frac{2}{5} = \frac{?}{100}$ | 17. $\frac{5}{3} = \frac{?}{42}$ | 18. $\frac{5}{7} = \frac{?}{98}$ |

Reduce each fraction to lowest terms. See Example 2.

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|-----------------------|-----------------------|----------------------|-----------------------|
| 19. $\frac{3}{6}$ | 20. $\frac{2}{10}$ | 21. $\frac{12}{18}$ | 22. $\frac{30}{40}$ |
| 23. $\frac{15}{5}$ | 24. $\frac{39}{13}$ | 25. $\frac{50}{100}$ | 26. $\frac{5}{1000}$ |
| 27. $\frac{200}{100}$ | 28. $\frac{125}{100}$ | 29. $\frac{18}{48}$ | 30. $\frac{34}{102}$ |
| 31. $\frac{26}{42}$ | 32. $\frac{70}{112}$ | 33. $\frac{84}{91}$ | 34. $\frac{121}{132}$ |

< 2 > Multiplying Fractions

Find each product. See Example 3.

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|---------------------------------------|--|---------------------------------------|
| 35. $\frac{2}{3} \cdot \frac{5}{9}$ | 36. $\frac{1}{8} \cdot \frac{1}{8}$ | 37. $\frac{1}{3} \cdot 15$ |
| 38. $\frac{1}{4} \cdot 16$ | 39. $\frac{3}{4} \cdot \frac{14}{15}$ | 40. $\frac{5}{8} \cdot \frac{12}{35}$ |
| 41. $\frac{2}{5} \cdot \frac{35}{26}$ | 42. $\frac{3}{10} \cdot \frac{20}{21}$ | 43. $\frac{1}{2} \cdot \frac{6}{5}$ |
| 44. $\frac{1}{2} \cdot \frac{3}{5}$ | 45. $\frac{1}{2} \cdot \frac{1}{3}$ | 46. $\frac{3}{16} \cdot \frac{1}{7}$ |

< 3 > Unit Conversion

Perform the indicated unit conversions. See Example 4. Round approximate answers to the nearest hundredth. Answers can vary slightly depending on the conversion factors used.

47. Convert 96 feet to inches.
48. Convert 33 yards to feet.
49. Convert 14.22 miles to kilometers.
50. Convert 33.6 kilometers to miles.
51. Convert 13.5 centimeters to inches.
52. Convert 42.1 inches to centimeters.
53. Convert 14.2 ounces to grams.
54. Convert 233 grams to ounces.
55. Convert 40 miles per hour to feet per second.
56. Convert 200 feet per second to miles per hour.
57. Convert 500 feet per second to kilometers per hour.
58. Convert 230 yards per second to miles per minute.