

Addition & Subtraction of Fractions & Mixed Numbers

Adding & Subtracting Fractions

1. Find a common denominator.
2. Add or subtract the two numerators and keep the denominator the same.
3. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $\frac{1}{3} + \frac{1}{6}$

$$\begin{array}{r} \frac{1}{3} \times \frac{2}{2} = \frac{2}{6} \\ + \frac{1}{6} \times \frac{1}{1} = \frac{1}{6} \\ \hline \frac{2}{6} + \frac{1}{6} = \frac{3}{6} = 1\frac{1}{2} \end{array}$$

Adding Mixed Numbers

1. Find a common denominator.
2. Add the two numerators and keep the denominator the same.
3. Add the whole numbers.
4. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $2\frac{3}{4} + 1\frac{2}{3}$

$$\begin{array}{r} 2\frac{3}{4} = 2\frac{9}{12} \\ + 1\frac{2}{3} = 1\frac{8}{12} \\ \hline 3\frac{17}{12} = 4\frac{5}{12} \end{array}$$

Subtracting Mixed Numbers

1. Find a common denominator.
2. Subtract the two numerators and keep the denominators the same. If the top numerator is smaller than the bottom numerator, borrow from the whole number and rename the top fraction.
3. Subtract the whole numbers.
4. Simplify the answer.

ex: $3\frac{1}{4} - 1\frac{1}{3}$

$$\begin{array}{r} 3\frac{1}{4} = 2\frac{3}{12} + \frac{12}{12} = 2\frac{15}{12} \\ - 1\frac{1}{3} = 1\frac{4}{12} \\ \hline 1\frac{11}{12} \end{array}$$

Multiplication & Division of Fractions & Mixed Numbers

Multiplying Fractions & Mixed Numbers

1. Turn any mixed numbers and whole numbers into improper fractions.
2. Cross-simplify if possible.
3. Multiply the numerators and then multiply the denominators
4. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $2\frac{1}{4} \cdot \frac{1}{3}$

$$\begin{array}{c} 3\cancel{x} \\ \frac{7}{4} \cdot \frac{1}{\cancel{3}_1} = \boxed{\frac{7}{4}} \end{array}$$

Dividing Fractions & Mixed Numbers

1. Turn any mixed numbers and whole numbers into improper fractions.
2. Keep the first fraction the same, change the division to multiplication, and flip the second fraction to its reciprocal.
3. Multiply the fractions.
4. Simplify the answer and/or change improper fraction answers to mixed numbers.

ex: $7 \div 1\frac{3}{4}$

$$\begin{array}{c} \frac{7}{1} \div \frac{7}{4} \\ \downarrow \\ \frac{7}{1} \cdot \frac{4}{\cancel{7}_1} = \frac{4}{1} = \boxed{4} \end{array}$$

Summer Packet

Date _____ Period _____

Evaluate each expression.

1) $5.8 - 4.4$

2) $7.4 - 5.32$

3) $5.659 + 4.2$

4) $7.1 + 7.1$

5) $6.5 - 5.72$

6) $0.1 + 5.5$

7) $2.9 + 0.1$

8) $0.8 + 6.1$

9) $8 + 0.9$

10) $6 - 5.1$

11) $3.5 + 4.5$

12) $4.2 - 2.7$

13) $1.6 + 5.31$

14) $1.89 + 3.77$

15) $3.4 + 1.7$

16) $6.1 - 0.5$

17) $3\frac{1}{6} - \frac{5}{4}$

18) $3\frac{5}{6} + 4\frac{1}{2}$

19) $3\frac{1}{2} - \frac{7}{5}$

20) $2\frac{3}{5} + 4\frac{3}{4}$

21) $4\frac{2}{5} + \frac{9}{8}$

22) $1 - \frac{4}{5}$

23) $1 + 2\frac{5}{7}$

24) $\frac{9}{7} + \frac{1}{5}$

25) $2\frac{3}{8} + \frac{9}{7}$

26) $\frac{11}{6} - \frac{1}{2}$

27) $\frac{1}{2} - \frac{1}{3}$

28) $1\frac{5}{7} + 2\frac{2}{7}$

29) $\frac{7}{6} + 2\frac{3}{4}$

30) $\frac{3}{2} + \frac{9}{7}$

31) $3\frac{5}{7} + \frac{4}{7}$

32) $3\frac{5}{8} + \frac{1}{2}$

Find each product.

33) $8.44 \cdot 8.2$

34) $9.1 \cdot 5.12$

35) $5.97 \cdot 1.2$

36) $2.069 \cdot 7.3$

37) $2.2 \cdot 1.7$

38) $3.8 \cdot 2.14$

39) $8.7 \cdot 5.8$

40) $0.9 \cdot 4.3$

41) $9.6 \cdot 6.6$

42) $9.526 \cdot 2.5$

43) $1.07 \cdot 6.5$

44) $2.9 \cdot 2.2$

45) $1\frac{1}{4} \cdot \frac{1}{2}$

46) $2\frac{5}{8} \cdot 5\frac{2}{9}$

$$47) 2\frac{1}{10} \cdot 5$$

$$48) 1\frac{3}{4} \cdot 2\frac{6}{7}$$

$$49) \frac{4}{3} \cdot \frac{8}{5}$$

$$50) 5\frac{3}{5} \cdot 2$$

$$51) 3\frac{3}{7} \cdot 2$$

$$52) 3\frac{5}{6} \cdot \frac{5}{3}$$

$$53) \frac{7}{5} \cdot \frac{3}{2}$$

$$54) 2\frac{5}{8} \cdot \frac{1}{3}$$

$$55) 2\frac{2}{9} \cdot \frac{3}{2}$$

$$56) \frac{1}{3} \cdot \frac{7}{8}$$

$$57) 25 \cdot 10$$

$$58) 18 \cdot 35$$

59) $21 \cdot 32$

60) $44 \cdot 17$

61) $7 \cdot 19$

62) $37 \cdot 37$

63) $39 \cdot 19$

64) $40 \cdot 26$

65) $12 \cdot 50$

66) $47 \cdot 35$

67) $11 \cdot 41$

68) $29 \cdot 38$

Find each quotient.

69) $6.9 \div 3$

70) $8.5 \div 2.5$

71) $5.6 \div 3.2$

72) $4.2 \div 8.4$

73) $8.4 \div 1.6$

74) $2.4 \div 4$

75) $4.828 \div 3.4$

76) $0.2 \div 2$

77) $0.9 \div 0.3$

78) $3.7 \div 0.2$

79) $8.8 \div 2$

80) $6.3 \div 4.2$

81) $5293 \div 79$

82) $470 \div 47$

83) $4080 \div 68$

84) $2700 \div 36$

85) $780 \div 12$

86) $2037 \div 97$

87) $7031 \div 79$

88) $365 \div 5$

89) $45 \div 3$

90) $1540 \div 28$

91) $75 \div 3$

92) $5624 \div 76$

93) $\frac{5}{6} \div 2\frac{1}{2}$

94) $\frac{8}{7} \div \frac{8}{5}$

$$95) 2\frac{3}{8} \div \frac{6}{5}$$

$$96) \frac{1}{2} \div \frac{8}{9}$$

$$97) \frac{9}{5} \div 1\frac{1}{4}$$

$$98) \frac{9}{5} \div 2$$

$$99) 3\frac{3}{7} \div 4\frac{4}{5}$$

$$100) 4\frac{3}{4} \div \frac{5}{3}$$

$$101) \frac{4}{7} \div \frac{3}{2}$$

$$102) 3\frac{1}{4} \div \frac{1}{4}$$

$$103) \frac{3}{2} \div \frac{5}{9}$$

$$104) \frac{17}{9} \div 4\frac{1}{10}$$

