

Fractions

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1. See Arith., pp. 44, 45.
2. Multiply to 4 decimal places and the result lies between 138.280 and 138.281.
3. Reduce to vulgar fractions.
4. $.142857142 \dots \div 5 = .0285714285 \dots = .0285714$.
5. The remaining digits may be 0's and \therefore the least value is .8397; they may be 9's, and \therefore the greatest value is $.83979 = .8398$.
6. $1769 \div 5 = 353.8$; $\text{this} \div 3 = 117.933 \dots$; $\text{this} \div 7 = 16.847619047 \dots = 16.8476190$.
7. $9.9 \div (5280 \times 12) = 9.9 \div 10 \div 11 \div 9 \div 8 \div 8 = \&c$.
8. $17 \div 42 = .40476 +$ and \therefore lies between .4047 and .4048.
9. See Arith., page 33.
10. $\frac{876}{1159} = \frac{\frac{876}{1159} \times 50}{50} = \frac{37\frac{917}{1159}}{50} = \frac{38}{50}$ most nearly.
11. The sum of these fractions is $2\frac{691}{1170}$, which is less than the next integer, 3 by $\frac{479}{1170}$.
12. Express the vulgar fractions as decimals.
13. $.834 \times .623 = .519582$, which differs from .52 by .000418 and from .519 by .000582, &c.

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14. Since one factor of 180 contains a digit in the ten's place, the other factor must be carried to at least the sixth dec. place.
16. $\frac{6\frac{1}{3}}{7} = \frac{19}{21} = \frac{19 \times \frac{17}{18}}{21 \times \frac{17}{18}} = \frac{17}{18\frac{5}{6}}$.