Section 1.2

1. a. 

b. rate = distance = 342 miles = 57 miles = 57 miles/hour
   time 6 hours 1 hour

3. You will travel 3 times as far in one hour as you will in \( \frac{1}{3} \) of an hour.

7. Each of the following percents can be found in the table titled Common Fraction-Decimal-Percent Equivalents.

a. 75% = \( \frac{3}{4} \)
b. 40% = \( \frac{2}{5} \)
c. 70% = \( \frac{7}{10} \)
d. 33.3% = \( \frac{1}{3} \)
e. 62.5% = \( \frac{5}{8} \)
f. 66.7% = \( \frac{2}{3} \)

9. Error division by 0. Division by 0 is undefined.

11.

13. a. \( \frac{.65}{100} = \frac{5 \times 13}{5 \times 20} = \frac{13}{20} \)
b. \( \frac{1.24}{100} = \frac{4 \times 31}{4 \times 25} = \frac{31}{25} \)
c. \( \frac{.575}{1000} = \frac{25 \times 23}{25 \times 40} = \frac{23}{40} \)
d. \( \frac{.400}{10} = \frac{4}{10} = \frac{2}{5} \)
e. \( \frac{.804}{1000} = \frac{4 \times 201}{4 \times 250} = \frac{201}{250} \)
15. a. \( \frac{3}{10} = 0.3 \)

b. \( \frac{33}{100} = 0.33 \)

c. \( \frac{333}{1000} = 0.333 \)
The TI-82 and 83 can write a decimal number as a fraction if the denominator is less than or equal to 1000.

d. \( \frac{333}{1000} = 0.333 \)

e. \( \frac{333333333333}{10000} = 0.333333333333 \) (Caution, this is an approximation by the calculator.)

f. \( \frac{1}{3} = 0.333333333333 \) There must be an infinite number of 3s for the decimal number to equal \( \frac{1}{3} \). A theme throughout the book is that calculator answers are often approximations for exact answers found by hand.

Skills and Review 1.2

17. If the signs are the same, the product is positive.
   If the signs are opposite, the product is negative.

19. a. \( \frac{1}{3} + \frac{5}{6} = \frac{1}{3} + \frac{5}{6} = \frac{1}{3} + \frac{5}{6} = \frac{2}{3} \) \( \frac{1}{3} \)

b. 0; 0 divided by a nonzero number is 0.

c. \( \frac{2}{3} + \frac{4}{5} = \frac{2}{3} + \frac{4}{5} = \frac{2}{3} + \frac{4}{5} = \frac{2}{3} \times \frac{4}{5} = \frac{2}{5} \)

21. a. Starting position: 6, change: 8, final position: 2

   \( 6 + 8 = 2 \)

b. Starting position: 5, change: 9, final position: 4

   \( 5 + 9 = 4 \)

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