

## Proportions

$$\frac{2}{6} = \frac{x}{18}$$

$$2 \cdot 18 = 6x$$

$$\frac{36}{6} = \frac{6x}{6}$$

$$6 = x$$

Solve each proportion. Use cross-products.

1.  $\frac{1}{4} = \frac{x}{8}$

2.  $\frac{20}{30} = \frac{5}{x}$

3.  $\frac{18}{24} = \frac{12}{x}$

4.  $\frac{80}{x} = \frac{48}{20}$

5.  $\frac{5}{5} = \frac{5x}{5}$

6.  $\frac{15}{45} = \frac{3}{x}$

7.  $\frac{1.8}{x} = \frac{3.6}{2.8}$

8.  $\frac{8}{x} = \frac{5}{2}$

9.  $\frac{8}{6} = \frac{x}{27}$

10.  $\frac{144}{6} = \frac{6x}{6}$

11.  $\frac{x}{3} = \frac{8}{8}$

12.  $\frac{36}{12} = \frac{x}{6}$

13.  $\frac{0.14}{0.07} = \frac{x}{1.5}$

14.  $\frac{6}{x} = \frac{6}{4}$

15.  $\frac{4}{5} = \frac{x}{5}$

16.  $\frac{16}{48} = \frac{x}{50}$

## Ratios, Proportions, and Percents

### Ratios

$$3 \text{ to } 12 \longrightarrow \frac{3}{12} = \frac{1}{4}$$

$$25:30 \longrightarrow \frac{25}{30} = \frac{5}{6}$$

$$5 \text{ out of } 15 \longrightarrow \frac{5}{15} = \frac{1}{3}$$

Write each ratio as a fraction. Write the answer in simplest form.

1. 66 to 40

2. 130 to 112

3. 110:112

4. 65:35

5. 21 to 84

6. 66:166

7. 30 to 323

8. 197 to 17

9. 18 to 76

10. 19 to 27

11. 0.12:1.44

12. 167 to 132

13. 50 to 90

14. 175 to 200

15. 65:115

16. 113:226

## Multiplying and Dividing by Multiples of 10

$$12.56 \times 10 = 12.56 = 125.6$$

Move the decimal point to the right one place.

$$12.56 \times 100 = 12.56 = 1256$$

Move the decimal point to the right two places.

$$12.565 \times 1000 = 12.565 = 12565$$

Move the decimal point to the right three places.

$$125.6 \div 1000 = 125.6 = 0.1256$$

Move the decimal point to the left three places.

Solve each problem. Show your work.

1.  $78 \times 100 =$

2.  $0.042 \div 100 =$

3.  $2.7 \times 10 =$

4.  $0.00198 \div 100 =$

5.  $2.7453 \times 1000 =$

6.  $3.581 \div 100,000 =$

7.  $5123.23 \div 10,000 =$

8.  $2.755 \times 10 =$

9.  $57,450 \div 100 =$

10.  $0.0442 \times 100,000 =$

11.  $0.000999 \times 1,000 =$

12.  $4.342 \times 100,000 =$

13.  $67.009 \div 1000 =$

14.  $40,750 \times 1000 =$

15.  $3.456 \times 10 =$

16.  $345.682 \div 100 =$

17.  $32.949 \times 100 =$

18.  $35.98 \times 10,000 =$

19.  $0.51 \div 10,000 =$

20.  $23,098 \div 10,000 =$

## Writing Fractions as Decimals

Write each fraction as a decimal. Draw a line above repeating numbers in decimals.

1.  $\frac{9}{36}$

2.  $\frac{8}{15}$

3.  $\frac{30}{45}$

4.  $\frac{19}{57}$

5.  $\frac{45}{72}$

6.  $\frac{21}{36}$

7.  $\frac{10}{60}$

8.  $\frac{32}{36}$

9.  $\frac{56}{63}$

10.  $\frac{13}{39}$

11.  $\frac{5}{10}$

12.  $\frac{12}{18}$

13.  $\frac{8}{24}$

14.  $\frac{56}{64}$

15.  $\frac{48}{74}$

16.  $\frac{6}{22}$

17.  $\frac{16}{72}$

18.  $\frac{35}{55}$

19.  $\frac{6}{40}$

20.  $\frac{4}{36}$

21.  $\frac{7}{48}$

**Writing Fractions as Decimals**

$$\frac{1}{5} \rightarrow 5 \overline{)1.00} \rightarrow \frac{1}{5} = 0.2$$

Terminating

$$\frac{1}{3} \rightarrow 3 \overline{)1.00} \rightarrow \frac{1}{3} = 0.\overline{3}$$

Repeating

Write each fraction as a decimal. Draw a line above repeating numbers in decimals.

1.  $\frac{2}{3}$

2.  $\frac{1}{2}$

3.  $\frac{4}{33}$

4.  $\frac{13}{15}$

5.  $\frac{28}{35}$

6.  $\frac{6}{15}$

7.  $\frac{11}{22}$

8.  $\frac{1}{9}$

9.  $\frac{2}{10}$

10.  $\frac{8}{16}$

11.  $\frac{23}{33}$

12.  $\frac{12}{25}$

13.  $3\frac{2}{3}$

14.  $\frac{7}{16}$

15.  $2\frac{3}{5}$