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Lesson 6.2 Fractions, Decimals, and Percents

Find each product.

1. $\frac{3}{4} \times 32$

2. $\frac{5}{6} \times 54$

3. $\frac{4}{9} \times 30$

4. $\frac{2}{21} \times 66$

Express each fraction or mixed number as a percent.

Example

$\frac{3}{7} = \frac{3}{7} \times \boxed{100}\%$ Multiply the fraction by 100%.

$= \frac{\boxed{300}}{\boxed{7}}\%$ Write the improper fraction as a mixed number.

$= 42\frac{6}{7}\%$

$100\% = \frac{100}{100} = 1$
So, $\frac{3}{7} \times 100\% = \frac{3}{7} \times 1$.

5. $\frac{1}{6} = \frac{1}{6} \times \boxed{}\%$ Multiply the fraction by 100%.

$= \frac{\boxed{}}{\boxed{}}$ Write the improper fraction as a mixed number.

$= $ _____%

6. $1\frac{2}{3} = 1\frac{2}{3} \times \boxed{}\%$ Multiply the fraction by 100%.

$= \frac{\boxed{}}{3} \times \boxed{}\%$ Write the mixed number as an improper fraction.

$= \frac{\boxed{}}{\boxed{}} = $ _____% Simplify.

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7. $\frac{5}{8}$

8. $2\frac{4}{7}$

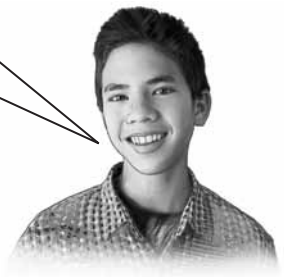
Express each decimal as a percent.

Example

Method 1

$0.12 = \frac{12}{100}$

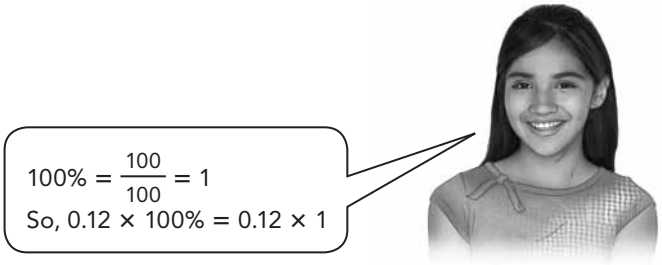
$= \underline{12}\ \%$



Method 2

$0.12 = 0.12 \times \boxed{100}\ \%$

$= \underline{12}\ \%$



9. 0.58

Method 1

$0.58 = \frac{\square}{100}$

$= \_\_\_\_\_\ \%$

Method 2

$0.58 = 0.58 \times \square\ \%$

$= \_\_\_\_\_\ \%$

10. 0.73

11. 0.4

12. 0.02

13. 5.01

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Express each percent as a fraction in simplest form.

Example

$14\frac{2}{7}\% = \frac{100}{7}\%$ — Express the mixed number as an improper fraction.

$= \frac{100}{7} \div 100$ — Divide by 100 to express the percent as a fraction.

$= \frac{100}{7} \times \frac{1}{100}$ — Rewrite using the reciprocal of the divisor.

$= \frac{100}{700}$ — Multiply.

$= \frac{1}{7}$ — Simplify.

To express n% as a fraction, divide n by 100.

In this case, divide $14\frac{2}{7}$ by 100.

14. $37\frac{1}{2}\% =$ _____% — Express the mixed number as an improper fraction.

= _____ ÷ _____ — Divide by 100 to express the percent as a fraction.

= _____ × _____ — Rewrite using the reciprocal of the divisor.

= _____ — Multiply.

= _____ — Simplify.

15. $5\frac{1}{4}\%$

16. $7\frac{3}{8}\%$

17. $66\frac{2}{3}\%$

18. $55\frac{5}{9}\%$

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Express each percent as a fraction in simplest form.

Example

41.8% = $\frac{41.8}{100}$ Express the decimal as a fraction.

= $\frac{418}{1{,}000}$ Multiply the numerator and denominator by 10 to make the numerator a whole number.

= $\frac{209}{500}$ Simplify.

19. 25.5% = _____ Express the decimal as a fraction.

= _____ Multiply the numerator and denominator by 10 to make the numerator a whole number.

= _____ Simplify.

20. 6.02% = _____ Express the decimal as a fraction.

= _____ Multiply the numerator and denominator by 100 to make the numerator a whole number.

= _____ Simplify.

21. 8.9%

22. 15.17%

23. 54.8%

24. 69.35%

12. 55% **13.** 60%

14. 64%

15. a) 38 out of 200 $\rightarrow \frac{38}{200}$

$= \frac{38 \div 2}{200 \div 2}$

$= \frac{19}{100}$

$= \underline{19\%}$

$\underline{19}\%$ of the animals are hamsters.

b) $\underline{100}\% - \underline{19}\% = \underline{81}\%$

$\underline{81}\%$ of the animals are not hamsters.

16. a) 7% **b)** 93%

17. 98%

18. $28\% = \frac{28}{100}$

$= \frac{28 \div 4}{100 \div 4}$

$= \underline{\frac{7}{25}}$

19. $110\% = \frac{110}{100}$

$= \frac{110 \div 10}{100 \div 10}$

$= \underline{\frac{11}{10}}$

20. $\frac{16}{25}$ **21.** $\frac{9}{4}$

22. $65\% = \frac{65}{100}$

$= \underline{0.65}$

23. $9\% = \frac{9}{100}$

$= \underline{0.09}$

24. 1.73 **25.** 2.8

Lesson 6.2

1. 24 **2.** 45

3. $13\frac{1}{3}$ **4.** $6\frac{2}{7}$

5. $\frac{1}{6} = \frac{1}{6} \times 100\%$

$= \frac{100}{6}$

$= \underline{16\frac{2}{3}\%}$

6. $1\frac{2}{3} = 1\frac{2}{3} \times 100\%$

$= \frac{5}{3} \times 100\%$

$= \frac{500}{3}$

$= \underline{166\frac{2}{3}\%}$

7. $62\frac{1}{2}\%$ **8.** $257\frac{1}{7}\%$

9. Method 1

$0.58 = \frac{58}{100}$

$= \underline{58\%}$

Method 2

$0.58 = 0.58 \times 100\%$

$= \underline{58\%}$

10. 73% **11.** 40%

12. 2% **13.** 501%

14. $37\frac{1}{2}\% = \underline{\frac{75}{2}\%}$

$= \underline{\frac{75}{2} \div 100}$

$= \underline{\frac{75}{2} \times \frac{1}{100}}$

$= \underline{\frac{75}{200}}$

$= \underline{\frac{3}{8}}$

15. $\frac{21}{400}$ **16.** $\frac{59}{800}$

17. $\frac{2}{3}$ **18.** $\frac{5}{9}$

19. $25.5\% = \frac{25.5}{100}$

$= \frac{255}{1{,}000}$

$= \frac{51}{200}$

20. $6.02\% = \frac{6.02}{100}$

$= \frac{602}{10{,}000}$

$= \frac{301}{5{,}000}$

21. $\frac{89}{1{,}000}$ **22.** $\frac{1{,}517}{10{,}000}$

23. $\frac{137}{250}$ **24.** $\frac{1{,}387}{2{,}000}$

Lesson 6.3

1. Method 1

The model shows that:

100% → 250

1% → $\frac{250}{100}$ = 2.5

4% → 4 × 2.5 = 10

4% of 250 is 10.

Method 2

4% of 250 = $\frac{4}{100}$ × 250

= 10

4% of 250 is 10.

2. Method 1

The model shows that:

100% → 550 kg

1% → $\frac{550}{100}$ = 5.5 kg

12% → 12 × 5.5 = 66 kg

12% of 550 kilograms is 66 kilograms.

Method 2

12% of 550 kg = $\frac{12}{100}$ × 550

= 66 kg

12% of 550 kilograms is 66 kilograms.

3. 315 **4.** $414

5. 369 **6.** 3,570 feet

7. The model shows that:

12% → 36 people

1% → $\frac{36}{12}$ = 3 people

100% → 100 × 3 = 300 people

There were 300 people at the movie theatre in all.

8. 40% → 520 biscuits

1% → $\frac{520}{40}$ = 13 biscuits

100% → 100 × 13 = 1,300 biscuits

Jenny made 1,300 biscuits in all.

9. 500 eggs **10.** 600 stamps

11. 40% → 180

1% → $\frac{180}{40}$

100% → $100 \times \frac{180}{40} = 450$

The number is 450.

12. 75% → 230

1% → $\frac{230}{75}$

100% → $100 \times \frac{230}{75} = 306\frac{2}{3}$

The number is $306\frac{2}{3}$.

13. 780 **14.** 125

Lesson 6.4

1. a) Method 1

Fraction of the quilts Denise sold

= $\frac{\text{Number of quilts sold}}{\text{Total number of quilts}}$

= $\frac{12}{40}$

= $\frac{3}{10}$

$\frac{3}{10} \times 100\% = 30\%$

Denise sold 30% of the quilts.

Method 2

40 quilts → 100%

1 quilt → $\frac{100}{40}\%$

12 quilts → $12 \times \frac{100}{40}\% = 30\%$

Denise sold 30% of the quilts.

b) 100% − 30% = 70%

Denise did not sell 70% of the quilts.

2. a) 20% **b)** 80%

3. a) 75% **b)** 25%

4. Method 1

Sales tax = 7% of $820

= $\frac{7}{100}$ × $820

= $57.40

$820 + $57.40 = $877.40

Janice paid $877.40 in total for her airfare.