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CHAPTER 10 Percent

Lesson 10.1 Percent

Write each item as a fraction, decimal, or percent.

	Fraction	Decimal	Percentage
1.	$\frac{5}{10}$		
2.	$\frac{25}{100}$		
3.	$\frac{20}{100}$		
4.		0.3	
5.		0.45	
6.		0.32	
7.			75%
8.			60%
9.			15%

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Solve. Show your work.

- 10.** During a math quiz, students had to complete 100 questions. Jerry completed only 84 questions.
- a.** What percent of the questions were not completed by Jerry?

 - b.** What fraction of the questions did Jerry complete?
- 11.** In the gym, $\frac{36}{100}$ of the students are girls. What percent of the students in the gym are boys?

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Lesson 10.2 Expressing Fractions as Percents

Express each fraction as a percent.

1. $\frac{1}{2} = \underline{\hspace{2cm}} \%$	2. $\frac{1}{4} = \underline{\hspace{2cm}} \%$
3. $\frac{2}{5} = \underline{\hspace{2cm}} \%$	4. $\frac{3}{8} = \underline{\hspace{2cm}} \%$
5. $\frac{5}{8} = \underline{\hspace{2cm}} \%$	6. $\frac{11}{20} = \underline{\hspace{2cm}} \%$
7. $\frac{16}{25} = \underline{\hspace{2cm}} \%$	8. $\frac{37}{50} = \underline{\hspace{2cm}} \%$
9. $\frac{72}{300} = \underline{\hspace{2cm}} \%$	10. $\frac{184}{400} = \underline{\hspace{2cm}} \%$
11. $\frac{270}{300} = \underline{\hspace{2cm}} \%$	12. $\frac{440}{500} = \underline{\hspace{2cm}} \%$

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Solve. Show your work.

- 13.** There were 300 participants in an art competition.
Of the participants, 240 completed their drawings.
What percent of the participants did not complete their drawings?

- 14.** There are 250 blue and yellow beads in a box.
There are 60 fewer yellow beads than blue beads in the box.
What percent of the beads in the box are yellow?

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- 15.** After spending \$6.75 on a meal and \$1.25 on drinks, Maria had \$12 left. What percent of her money did Maria spend?
- 16.** There are two sizes of red and blue marbles in a box. Of the big marbles in the box, 45 are red and $\frac{3}{4}$ are blue. The fraction of small marbles that are red is $\frac{2}{5}$ and the fraction of small marbles that are blue is $\frac{3}{5}$. There are 24 more small blue marbles than small red marbles. What percent of the marbles are big marbles?

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17. Glen collects a total of 450 stamps from the United States, Great Britain, and India. In his collection, 52% of the stamps are U.S. stamps. He has $\frac{3}{5}$ as many Indian stamps as British stamps.

a. How many Indian stamps does Glen have?

b. What percent of Glen's collection are British stamps?

18. Mr. Smith baked 144 blueberry pies, some strawberry pies, and some apple pies. The number of apple pies is $\frac{4}{5}$ of the number of strawberry pies. There are 24 more strawberry pies than apple pies. What percent of the pies are blueberry pies?



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Lesson 10.3 Percent of a Number

Multiply.

1. 25% of \$360	2. 75% of 24 hours
3. 60% of 160 km	4. 80% of 5,600 people
5. 45% of 8 kg	6. 30% of 2 L 370 mL

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Solve. Show your work.

7. Of the 480 flowers in a shop, 30% are lilies, 45% are orchids, and the rest are roses. How many roses are there in the shop?

8. Of the 350 students in a hall, 20% are girls. Then, 50 more girls entered the hall. Now, what percent of students in the hall are girls?

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Lesson 10.4 Real-World Problems: Percent

Solve. Show your work.

- 1.** Leon deposited \$30,000 in a bank which paid 2% interest per year. After 1 year, Leon withdrew all his money including the interest. How much money did Leon withdraw in all?

- 2.** At a flower shop, 4 flowers cost \$10. Mrs. Watson usually buys 12 flowers. During a sale, there is a 20% discount on every flower. How many flowers can Mrs. Watson buy during the sale if she spends the same amount of money that she usually does?



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3. Peter's allowance is the same every month. Each month Peter spends \$114 and saves the rest. He saves \$432 in a year. What percent of his allowance does Peter save every month?

4. Cheryl used 40% of her money to buy a dress and $\frac{1}{5}$ of the remainder to buy a pair of shoes. She then donated \$60 to charity and had \$132 left. How much money did Cheryl have at first?

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3. Of the 150 goldfish that Joanna bought, 60% were females and the rest were males. When some female goldfish died, the percent of female goldfish became 52%.

a. How many male goldfish were there?

b. How many female goldfish died?

4. Of the 280 muffins that Mr. Parker baked, 40% were corn muffins. How many more corn muffins must Mr. Parker bake so that 60% of the muffins are corn muffins?