

Lesson 1 Percent of a Number PRE-ALGEBRA

To find a percent of a number, you can name the percent as a fraction or as a decimal.

What number is 25% of 40?

$$\begin{aligned} n &= 25\% \times 40 \\ &= \frac{1}{4} \times 40 \\ &= 10 \end{aligned}$$

10 is 25% of 40.

What number is $6\frac{1}{2}\%$ of 20?

$$\begin{aligned} n &= 6\frac{1}{2}\% \times 20 \\ &= 6.5\% \times 20 \\ &= 0.065 \times 20 \\ &= 1.3 \end{aligned}$$

1.3 is $6\frac{1}{2}\%$ of 20.

Complete the following.

a

- _____ is 50% of 80.
- _____ is 15% of 60.
- _____ is 25% of 30.
- _____ is 20% of 96.
- _____ is 12% of 80.
- _____ is 25% of 30.6.
- _____ is 97% of 28.5.
- _____ is $7\frac{1}{2}\%$ of 60.
- _____ is $6\frac{1}{4}\%$ of 160.

b

- _____ is 75% of 40.
- _____ is 10% of 96.
- _____ is 4% of 180.
- _____ is 40% of 200.
- _____ is 75% of 64.
- _____ is 5% of 980.
- _____ is 100% of 65.7.
- _____ is $1\frac{1}{2}\%$ of 300.
- _____ is $8\frac{3}{4}\%$ of 80.

Lesson 1 Problem Solving PRE-ALGEBRA

Solve each problem.

1. Bob's team won 75% of their lacrosse games. They played 16 games in all. How many games did they win?

They won _____ games.

2. A factory is operating at 80% of capacity. The capacity is 300 cases per hour. How many cases are being produced each hour?

_____ cases are being produced each hour.

3. Of the 630 seats in the cafeteria, 70% are in use. How many seats are being used?

_____ seats are being used.

4. Of the 160 points a hockey player scored last season, 35% were on powerplays. How many powerplay points did the player score last season?

He scored _____ powerplay points.

5. Of the 240 trees the park department planted last month, 25% were maples. How many maple trees did they plant last month?

They planted _____ maple trees.

6. A salesperson's commission is 6% of total sales. If total sales are \$24 000, what is the commission?

The commission is \$_____.

7. After testing 7200 parts, an inspector found that 1.5% were defective. How many of the parts were defective?

_____ parts were defective.

1.

2.

3.

4.

5.

6.

7.

Lesson 2 Percent of a Number

PRE-ALGEBRA

3 is what percent of 25?

$$3 = \quad n\% \quad \times 25$$

$$3 = \frac{n}{100} \times 25$$

$$\frac{3}{1} = \frac{n \times 25}{100}$$

$$300 = n \times 25$$

$$12 = n$$

3 is 12 % of 25.

16.5 is what percent of 55?

$$16.5 = n\% \times 55$$

$$16.5 = \frac{n}{100} \times 55$$

$$\frac{16.5}{1} = \frac{n \times 55}{100}$$

$$1650 = n \times 55$$

$$30 = n$$

16.5 is 30 % of 55.

Complete the following.

*a**b*

1. 25 is _____ % of 125.

75 is _____ % of 200.

2. 13 is _____ % of 52.

24 is _____ % of 48.

3. 60 is _____ % of 60.

63 is _____ % of 70.

4. 6.3 is _____ % of 75.

37.5 is _____ % of 50.

5. 5 is _____ % of 4.

350 is _____ % of 200.

6. 12.5 is _____ % of 100.

62.5 is _____ % of 50.

7. 27.3 is _____ % of 60.

15 is _____ % of 75.

8. 120 is _____ % of 60.

135 is _____ % of 180.

9. 1.1 is _____ % of 100.

90 is _____ % of 60.

10. 36 is _____ % of 60.

39 is _____ % of 48.

Lesson 2 Problem Solving PRE-ALGEBRA

Solve each problem.

1. Twenty-four of 30 workers take 1 h for lunch. What percent of the workers take 1 h for lunch?

_____ % take 1 h for lunch.

2. During a basketball game, Jamille attempted 15 baskets and made 6. What percent of the baskets that she attempted did she make?

She made _____ % of the baskets attempted.

3. The gasoline tank on a lawn mower will hold 1 L of gasoline. There is 0.2 L of gasoline in the tank. The tank is what percent full?

The tank is _____ % full.

4. There are 33 people at a meeting. Forty people had been asked to the meeting. What percent of the people asked to the meeting are at the meeting?

_____ % of the people asked to the meeting are at the meeting.

5. During a sale the price of a pair of shoes was reduced \$12. The shoes regularly sell for \$48. The price reduction is what percent of the regular price?

The price reduction is _____ % of the regular price.

6. The sales tax on a \$2.50 purchase is \$0.20. The sales tax is what percent of the purchase price?

The sales tax is _____ % of the purchase price.

7. Out of 2160 votes, Ian received 1350 votes. What percent of the votes did he receive?

He received _____ % of the votes.

1.

2.

3.

4.

5.

6.

7.

Lesson 3 Percent of a Number PRE-ALGEBRA

You can name a percent as a fraction or as a decimal.

105 is 35% of what number?

$$\begin{array}{l}
 \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\
 105 = 35\% \times n \\
 105 = \frac{35}{100} \times n \\
 \frac{105}{1} = \frac{35 \times n}{100} \\
 10\,500 = 35 \times n \\
 300 = n
 \end{array}$$

105 is 35% of 300.

0.6 is 15% of what number?

$$\begin{array}{l}
 0.6 = 15\% \times n \\
 0.6 = 0.15 \times n \\
 \frac{0.6}{0.15} = \frac{0.15 \times n}{0.15} \\
 4 = n
 \end{array}$$

0.6 is 15% of 4.

Complete the following.

a

- 15 is 25% of _____.
- 9 is 50% of _____.
- 120 is 75% of _____.
- 7 is 140% of _____.
- 0.8 is 25% of _____.
- 4 is 40% of _____.
- 150 is 20% of _____.
- 360 is 150% of _____.
- 33 is 66% of _____.
- 8 is 8% of _____.

b

- 0.8 is 40% of _____.
- 32 is 16% of _____.
- 185 is 25% of _____.
- 83 is 100% of _____.
- 2.45 is 35% of _____.
- 0.5 is 125% of _____.
- 1.28 is 25% of _____.
- 54 is 90% of _____.
- 80 is 100% of _____.
- 1.5 is 5% of _____.

Lesson 3 Problem Solving PRE-ALGEBRA

Solve each problem.

1. In his last basketball game, Max made six baskets. He made 40% of the baskets that he attempted. How many baskets did he attempt during the game?

He attempted _____ baskets.

2. The down payment on a bicycle is \$125. This is 25% of the selling price. How much does the bicycle sell for?

The bicycle costs \$_____.

3. Last season 20% of the base hits made by a baseball player were home runs. The player hit 42 home runs. How many base hits did he make in all?

He made _____ base hits in all.

4. At the beginning of each track practice, Steve runs 0.5 km. This is 40% of the running that he will do during practice. How far will he run during each practice?

He will run _____ km during each practice.

5. During a sale the price of a suit was reduced \$10. The reduction was 20% of the regular price. What was the regular price?

The regular price was \$_____.

6. Yesterday only 13 students were absent from school. This was 4% of the enrollment. What is the school's enrollment?

_____ students are enrolled.

7. Mrs. Woods received a \$0.78 discount for paying a bill early. The discount was 5% of her bill. How much was the bill before the discount?

The bill was \$_____ before the discount.

1.

2.

3.

4.

5.

6.

7.

Lesson 4 Percent PRE-ALGEBRA

Complete the following.

a

1. _____ is 60% of 300.

2. _____ is 125% of 64.

3. _____ is 7% of 560.

4. _____ is $8\frac{1}{4}\%$ of 76.

5. 30 is _____ % of 120.

6. 225 is _____ % of 90.

7. 126 is _____ % of 2100.

8. 16 is _____ % of 80.

9. 56 is 40% of _____.

10. 106 is 106% of _____.

11. 0.5 is 50% of _____.

12. 0.6 is 150% of _____.

b

_____ is 65% of 780.

_____ is 150% of 160.

_____ is $2\frac{1}{2}\%$ of 96.

_____ is 8.5% of 7200.

12 is _____ % of 16.

867 is _____ % of 867.

36 is _____ % of 400.

225 is _____ % of 900.

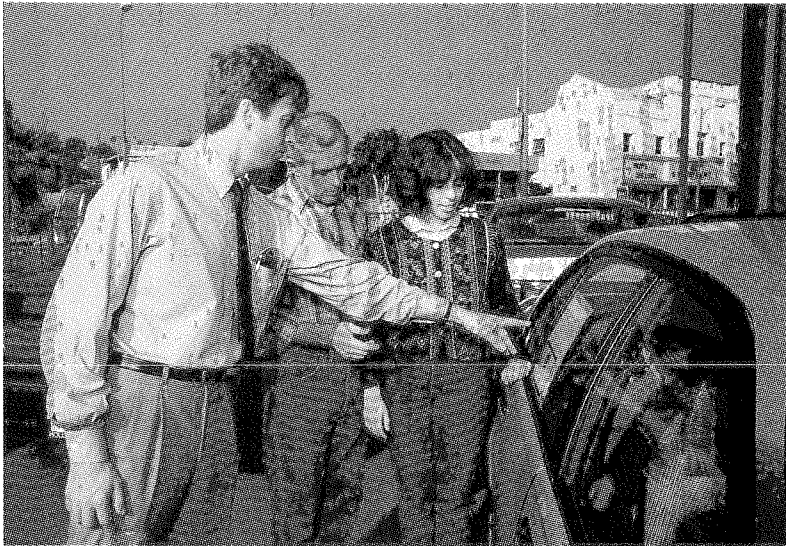
72 is 120% of _____.

975 is 125% of _____.

0.75 is 20% of _____.

7.65 is 25% of _____.

Lesson 4 Problem Solving PRE-ALGEBRA



Solve each problem.

1. To buy a new car, a down payment of 20% is required. If a car costs \$12 000, what is the required down payment?

The required down payment is \$_____.

2. You buy a used car that costs \$9890. You pay 25% of the cost of the car as a down payment. How much did you pay for the down payment?

You paid \$_____ for the down payment.

3. Mr. Gallego is buying a car that sells for \$14 000. He got \$4900 for the trade-in on his present car. What percent of the price of the new car was he allowed for his present car?

He was allowed _____%.

4. Ms. Lane made a down payment of \$3800 on a new car. That was 25% of the total price. What was the total price of the new car?

The total price was \$_____.

5. Andy and Diane want to buy a used van. They got \$5500 for the trade-in on their present car. They also made a down payment of \$2300. They still owe 40% of the price of the van. What is the price of the van?

The price of the van is \$_____.

1.

2.

3.

4.

5.

Lesson 5 Percent PRE-ALGEBRA

Complete the following.

a

1. _____ is 30% of 90.
2. 42 is _____% of 56.
3. 16 is 40% of _____.
4. _____ is 65% of 35.
5. 7 is _____% of 16.
6. 30 is 60% of _____.
7. _____ is 75% of 60.
8. 16 is _____% of 80.
9. 74 is 5% of _____.
10. _____ is $6\frac{1}{2}$ % of 980.
11. 117 is _____% of 78.
12. 42 is 30% of _____.

b

- 34 is 17% of _____.
- _____ is 5% of 63.
- 84 is _____% of 70.
- 675 is 75% of _____.
- _____ is 25% of 64.
- 57 is _____% of 60.
- 72 is 80% of _____.
- _____ is $8\frac{1}{4}$ % of 40.
- 85 is _____% of 170.
- 968 is 100% of _____.
- _____ is 150% of 90.
- 24 is _____% of 64.

Lesson 5 Problem Solving PRE-ALGEBRA

Solve each problem.

1. An inspector found that 6% of the parts that he examined were faulty. One day 650 parts were made. How many of those parts were faulty?

_____ parts were faulty.

2. An order is for 1000 parts. After 350 parts are made, what percent of the order has been made?

_____ % of the parts have been made.

3. Mrs. Cook was able to purchase parts for her machine for 75% of the regular price. She paid \$27 for the parts. What was the regular price of the parts?

The regular price was \$_____.

4. There are 48 parking spaces in a parking lot. The lot is 62.5% filled. How many spaces are filled?

_____ spaces are filled.

5. When 42 out of the total number of parking spaces in problem 4 are filled, what percent of the spaces are filled?

_____ % of the spaces are filled.

6. When the truck is loaded to 45% of capacity, there are 108 cases on the truck. How many cases will be on the truck when it is loaded to capacity?

_____ cases will be on the truck.

7. Kent had 75 papers to sell. He has sold 45. What percent of the total number of papers has he sold?

He has sold _____ % of the papers.

1.

2.

3.

4.

5.

6.

7.

CHAPTER 6 PRACTICE TEST
Percent

Complete the following.

a

1. _____ is 32% of 250.

2. _____ is 25% of 72.

3. 330 is 66% of _____.

4. 9 is _____% of 30.

5. 0.8 is 40% of _____.

6. 45 is _____% of 80.

7. _____ is $7\frac{1}{4}$ % of 368.

8. 8 is 40% of _____.

9. 7 is _____% of 7.

10. _____ is 9.2% of 680.

b

25 is _____% of 50.

28 is 40% of _____.

1.2 is _____% of 1.6.

_____ is $6\frac{1}{2}$ % of 900.

_____ is 70% of 480.

195 is 65% of _____.

1.9 is _____% of 7.6.

_____ is 150% of 90.

1.4 is 70% of _____.

210 is _____% of 240.

CHAPTER 7 PRETEST

Interest

Assume each principal has been loaned as indicated. Find the interest for each loan. Then find the total amount needed to repay each loan.

	<i>Principal</i>	<i>Rate</i>	<i>Time</i>	<i>Interest</i>	<i>Total amount</i>
1.	\$400	8%	1 year		
2.	\$650	12%	1 year		
3.	\$120	15%	1 year		
4.	\$800	11%	2 years		
5.	\$450	9%	3 years		

Complete the following.

	<i>Principal</i>	<i>Rate</i>	<i>Time</i>	<i>Interest</i>
6.	\$250	10%	$1\frac{1}{2}$ years	
7.	\$300	12%	$2\frac{1}{4}$ years	
8.	\$180	9%	90 days	
9.	\$60	8%	60 days	
10.	\$200	14%	180 days	
11.	\$180	13%	$1\frac{1}{2}$ years	
12.	\$300	9%	$\frac{1}{2}$ year	
13.	\$1000	$8\frac{1}{4}\%$	$1\frac{1}{2}$ years	
14.	\$1850	11%	3 years	
15.	\$424	15%	$2\frac{3}{4}$ years	