

6-4 Percent of a Number

p. 342 4-19-18

Apr 17-9:14 AM

The human body is made up mostly of water. In fact, about 67% of a person's total (100%) body weight is water. If Cameron weighs 90 pounds, about how much of his weight is water?

Recall that a percent is a part of 100. Since you want to know the part of Cameron's body that is water, you can set up and solve a proportion to find the answer.

$$\begin{array}{l} \text{Part} \rightarrow \frac{67}{100} = \frac{n}{90} \leftarrow \text{Part} \\ \text{Whole} \rightarrow \end{array}$$

$$\frac{6030}{100} = \frac{100n}{100}$$

$$60.3\%$$

May 9-1:51 PM

Find the percent of each number.

30% of 50

$$\frac{30}{100} = \frac{n}{50} \quad \text{Write a proportion.}$$

$$30 \cdot 50 = 100 \cdot n \quad \text{Set the cross products equal.}$$

$$1,500 = 100n \quad \text{Multiply.}$$

$$\frac{1,500}{100} = \frac{100n}{100} \quad \text{Divide each side by 100 to isolate the variable.}$$

$$15 = n$$

30% of 50 is 15.

May 9-1:51 PM

Find the percent of each number.

30% of 50

May 9-1:51 PM

Helpful Hint

When solving a problem with a percent greater than 100%, the *part* will be greater than the *whole*.

Find the percent of each number.

200% of 24

$$\frac{200}{100} = \frac{n}{24} \quad \text{Write a proportion.}$$

$$\frac{4800}{100} = \frac{100n}{100}$$

$$n = 48$$

Apr 17-9:16 AM

Find the percent of each number.

40% of 40

$$\frac{40}{100} = \frac{n}{40} \quad \frac{1600}{100} = \frac{100n}{100} \quad n = 16$$

Find the percent of each number.

150% of 64

$$\frac{150}{100} = \frac{n}{64} \quad \frac{9600}{100} = \frac{100n}{100}$$

$$n = 96$$

May 9-1:53 PM

In addition to using proportions, you can find the percent of a number by using decimal equivalents.

May 9-1:53 PM

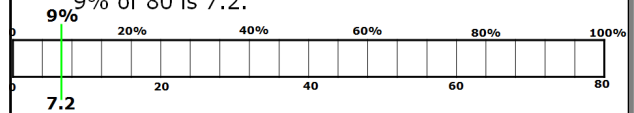
Find the percent of the number. Check whether your answer is reasonable.

9% of 80

$9\% \text{ of } 80 = 0.09 \cdot 80 = 7.2$ *Write the percent as a decimal and multiply.*

Model

Since 10% of 80 = 8, a reasonable answer for 9% of 80 is 7.2.



May 9-1:53 PM

Find the percent of the number. Estimate to check whether your answer is reasonable.

3% of 12

$0.03 \cdot 12 = 0.36$ $\frac{3}{100} = \frac{n}{12}$

Find the percent of the number. Check whether your answer is reasonable.

21% of 40

$0.21 \cdot 40 = 8.4$ $\frac{21}{100} = \frac{n}{40}$ $\frac{36 = 100n}{100} \quad n = 36$

May 9-1:53 PM

Find the percent of the number. Estimate to check whether your answer is reasonable.

6% of 18

$0.06 \cdot 18 = 1.08$

$\frac{6}{100} = \frac{n}{18}$

May 9-1:54 PM

The estimated world population in 2001 was 6,157 million. About 40% of the people were 19 or younger. What was the approximate number of people 19 or younger, to the nearest million?

Find 40% of 6,157 million.

$0.4 \cdot 6,157 = 2,463$ million

The estimated world population in 2001 was 6,157 million. About 60% of the people were above 19 years of age. What was the approximate number of people 19 or older, to the nearest million?

Find 60% of 6,157 million.

$0.6 \cdot 6,157 = 3,694$ million

May 9-1:54 PM

Lesson Quiz

Find the percent of each number.

- 25% of 8
- 40% of 110

Find the percent of each number. Check whether your answer is reasonable.

- 150% of 96
- 0.3% of 120
- Whitmer Middle School has 850 students. If 42% of the students bought lunch on Monday, how many student bought lunch on Monday?

May 9-1:54 PM