

Looking Ahead

Survey results are often converted from raw data to a percent.

Example Preview

Sandra asked 20 of her friends for their favorite flavor of ice cream. Convert her survey results below to percents.

Solution

Sandra surveyed 20 people, so we divide the actual survey result in each category by 20 and then convert to a decimal and then to a percent.

Favorite Flavors of Ice Cream

Ice Cream Flavor	Survey Result	Survey Result as a Fraction	Survey Result as a Decimal	Survey Result as a Percent
Vanilla	2	$\frac{2}{20}$	0.1	10%
Chocolate	6	$\frac{6}{20}$	0.3	30%
Cookies and Cream	4	$\frac{4}{20}$	0.2	20%
Rocky Road	3	$\frac{3}{20}$	0.15	15%
Other	5	$\frac{5}{20}$	0.25	25%

1.R.4 Exercises

Concept Check

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. If a decimal number is less than 1, then the equivalent percent will be less than 100%.
2. It is not possible to have a percent greater than 100%.
3. A decimal number that is between 0.01 and 0.10 is between 10% and 100%.
4. To change from a percent to a decimal, simply omit the percent sign.

PracticeChange each fraction to a percent.

5. $\frac{20}{100}$

6. $\frac{125}{100}$

Change each decimal number to a percent.

7. 0.02

8. 2.3

Change each percent to a decimal number.

9. 7%

10. 179%

ApplicationsSolve.

11. **Interest:** A savings account is offering an interest rate of 0.04 for the first year after opening the account. Change 0.04 to a percent.

12. **Sales Tax:** Suppose that sales tax is figured at 7.25%. Change 7.25% to a decimal.
13. **Artificial Intelligence Survey:** According to a survey conducted from Sept. 15 to Oct. 10, 2017 by Gallup and Northeastern University, 73% of Americans surveyed say artificial intelligence will eliminate more jobs than it creates. Results were based on a mail survey of 3,297 Americans over the age of 18.¹
- What is the population being studied?
 - What is the sample?
 - What are the sample statistics?
 - Convert the sample statistics to decimal numbers.

Writing & Thinking

14. Describe the relationship between percent and the number 100.
15. Describe a situation where more than 100% is possible. Describe a situation where it is impossible to have more than 100%.

¹ Source: Gallup, Inc. and Northeastern University. "Optimism and Anxiety." January 2018. <https://www.northeastern.edu/gallup/pdf/OptimismAnxietyNortheasternGallup.pdf> (23 July 2019).