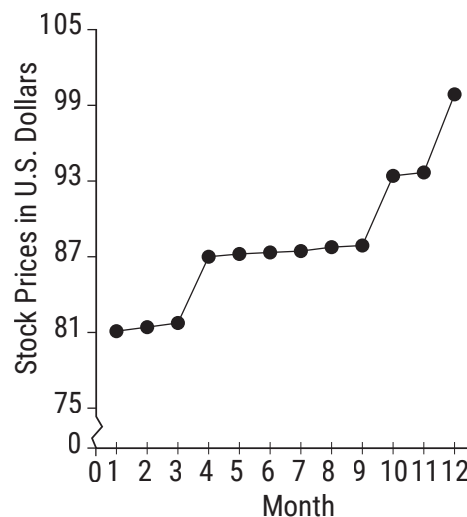


Month	Closing Price (1st Day of 12 consecutive months)
7	87.45
8	87.76
9	87.89
10	93.41
11	93.68
12	99.57

- Using the graph with the data plotted, determine which type of process the time series data represent: Stationary, Nonstationary and Increasing, or Nonstationary and Decreasing.



- What percent of the months have a closing price above \$90?

Solution

- From the time series graph, we can see that there is strong evidence of an upward trend in stock prices. Therefore, the process is Nonstationary and Increasing.
- Months 10 through 12 have closing prices of \$93.41, \$93.68, and \$99.57 respectively, which are all greater than \$90. Therefore 3 months out of 12 have a closing stock price above \$90. As a percent this is

$$\frac{3}{12} \cdot 100 = 25\%$$

2.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.)

- Fractions that have denominators other than 100 cannot be changed to a percent.

2. The fraction $\frac{1}{5}$ is equivalent to $\frac{1}{5}\%$.

3. When changing from a percent to a mixed number, the fraction does not need to be reduced.

4. $75\% = 0.75 = \frac{3}{4}$

Practice

Change each fraction or mixed number to a percent. If necessary, round to the nearest tenth of a percent.

5. $\frac{3}{4}$

6. $5\frac{3}{10}$

Change each percent to a fraction or mixed number and reduce, if possible.

7. 120%

8. 12.5%

Applications

Solve. If necessary, round to the nearest hundredth of a percent.

9. **Exam Grades:** Out of a possible total of 240 points on an exam, David received 204 points. What percent of the exam did David get correct?
10. **College Degrees:** To receive a Bachelor of Science (BS) degree at Bluefield State College, the student must complete a total of 128 credit hours, of which 41 of these credits must be general education Core Skills courses. What percent of the total curriculum is dedicated to general education courses? ¹
11. **Coin Toss:** A coin was tossed 450 times and landed on heads 243 times. What percent of the tosses landed on heads?
12. **Sports Statistics:** Kamal is practicing his free throw shots to improve for the basketball team. On Monday he made 28 out of 35 of his shots. What percent of his shots did he make on Monday?

1 Source: 2010–2011 Bluefield, WV State College Catalogue, p.76

Writing & Thinking

13. Justify why mixed numbers are a larger percentage than proper fractions alone. (Consider the value of 100%.)

14. Describe the process to change a percent to a fraction or mixed number.