4.15 Fractions as Repeating Decimals

• Example 1

(*a*) Write $\frac{1}{3}$ as a decimal.

We obtain $\frac{1}{3} = 0.333\ldots = 0.\overline{3}$

(*b*) Write $\frac{5}{12}$ as a decimal.

We obtain $\frac{5}{12} = 0.4166\ldots = 0.41\overline{6}$

CHECK YOURSELF 1

Find the decimal equivalent of each fraction.

a. $\frac{2}{3}$ **b.** $\frac{7}{12}$

• Example 2

Write $\frac{5}{11}$ as a decimal.

We obtain $\frac{5}{11} = 0.4545\ldots = 0.\overline{45}$

CHECK YOURSELF 2

Use the bar notation to write the decimal equivalent of $\frac{5}{7}$. (Be patient. You'll have to divide for a while to find the repeating pattern.)

CHECK YOURSELF ANSWERS

1. (a) $0.666\ldots = 0.\overline{6}$; **(b)** $\frac{7}{12} = 0.5833\ldots = 0.58\overline{3}$.

2. $\frac{5}{7} = 0.\overline{714285}$.

4.15 Exercises

Name

Section Date

ANSWERS

1.

2.

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9.

10.

Write the decimal equivalents, using the bar notation.

1. $\frac{1}{18}$

2. $\frac{4}{9}$

3. $\frac{3}{11}$

4. $\frac{8}{11}$

5. $\frac{5}{18}$

6. $\frac{7}{11}$

7. $\frac{4}{15}$

8. $\frac{5}{6}$

9. $\frac{7}{15}$

10. $\frac{7}{24}$