

Share and Show**Write a rule for the sequence.**

1. $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, \dots$

2. $\frac{1}{9}, \frac{1}{3}, \frac{5}{9}, \dots$

Think: Is the sequence increasing or decreasing?

Rule: _____

Rule: _____

Write a rule for the sequence. Then find the unknown term.

3. $\frac{3}{10}, \frac{2}{5}, \underline{\hspace{2cm}}, \frac{3}{5}, \frac{7}{10}$

4. $10\frac{2}{3}, 9\frac{11}{18}, 8\frac{5}{9}, \underline{\hspace{2cm}}, 6\frac{4}{9}$

Rule: _____

Rule: _____

On Your Own**Write the first four terms of the sequence.**

5. **Rule:** start at $5\frac{3}{4}$, subtract $\frac{5}{8}$

_____, _____, _____, _____

6. **Rule:** start at $\frac{3}{8}$, add $\frac{3}{16}$

_____, _____, _____, _____

7. **Rule:** start at $2\frac{1}{3}$, add $2\frac{1}{4}$

_____, _____, _____, _____

8. **Rule:** start at $\frac{8}{9}$, subtract $\frac{1}{18}$

_____, _____, _____, _____

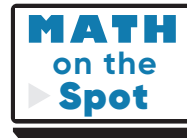
9. **MTR** Vicki started jogging. The first time she ran, she ran $\frac{3}{16}$ mile. The second time, she ran $\frac{3}{8}$ mile, and the third time, she ran $\frac{9}{16}$ mile. If she continued this pattern, when was the first time she ran more than 1 mile? Explain.

10. Mr. Kuri drove $78\frac{1}{3}$ miles on Monday, $77\frac{1}{12}$ miles on Tuesday, and $75\frac{5}{6}$ miles on Wednesday. If he continues this pattern on Thursday and Friday, how many fewer miles will he drive on Friday than on Tuesday?

Problem Solving • Applications

11. When Bill bought a marigold plant, it was $\frac{1}{4}$ inch tall. After the first week, it measured $1\frac{1}{12}$ inches tall. After the second week, it was $1\frac{11}{12}$ inches. After week 3, it was $2\frac{3}{4}$ inches tall. Assuming the growth of the plant was constant, what was the height of the plant at the end of week 4?

12. What if Bill's plant grew at the same rate but was $1\frac{1}{2}$ inches when he bought it? How tall would the plant be after 3 weeks?



13. Kendra hiked each day for a week. The first day she hiked $\frac{1}{8}$ mile, the second day she hiked $\frac{3}{8}$ mile, and the third day she hiked $\frac{5}{8}$ mile.

What is the rule for the distance Kendra hikes each day? Show how you can check your answer.

If the pattern continues, how many miles will Kendra hike on day 7? Explain how you found your answer.
