

# ALGEBRA

## Lesson 6.8

Name \_\_\_\_\_

### Patterns with Fractions

COMMON CORE STANDARD CC.5.NF.1

Use equivalent fractions as a strategy to add and subtract fractions.

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

1.  $\frac{1}{2}, \frac{2}{3}, \frac{5}{6}, 1, 1\frac{1}{6}$

2.  $1\frac{3}{8}, 1\frac{3}{4}, 2\frac{1}{8}, 2\frac{7}{8}$

Think: The pattern is increasing.  
Add  $\frac{1}{6}$  to find the next term.

Rule: **add  $\frac{1}{6}$**

Rule: **add  $\frac{3}{8}$**

3.  $1\frac{9}{10}, 1\frac{7}{10}, 1\frac{1}{2}, 1\frac{3}{10}, 1\frac{1}{10}$

4.  $2\frac{5}{12}, 2\frac{1}{6}, 1\frac{11}{12}, 1\frac{5}{12}$

Rule: **subtract  $\frac{1}{5}$**

Rule: **subtract  $\frac{1}{4}$**

Write the first four terms of the sequence.

5. Rule: start at  $\frac{1}{2}$ , add  $\frac{1}{3}$

**$\frac{1}{2}, \frac{5}{6}, 1\frac{1}{6}, 1\frac{1}{2}$**

6. Rule: start at  $3\frac{1}{8}$ , subtract  $\frac{3}{4}$

**$3\frac{1}{8}, 2\frac{3}{8}, 1\frac{5}{8}, \frac{7}{8}$**

7. Rule: start at  $5\frac{1}{2}$ , add  $1\frac{1}{5}$

**$5\frac{1}{2}, 6\frac{7}{10}, 7\frac{9}{10}, 9\frac{1}{10}$**

8. Rule: start at  $6\frac{2}{3}$ , subtract  $1\frac{1}{4}$

**$6\frac{2}{3}, 5\frac{5}{12}, 4\frac{1}{6}, 2\frac{11}{12}$**

### Problem Solving

9. Jarett's puppy weighed  $3\frac{3}{4}$  ounces at birth. At one week old, the puppy weighed  $5\frac{1}{8}$  ounces. At two weeks old, the puppy weighed  $6\frac{1}{2}$  ounces. If the weight gain continues in this pattern, how much will the puppy weigh at three weeks old?

**$7\frac{7}{8}$  ounces**

10. A baker started out with 12 cups of flour. She had  $9\frac{1}{4}$  cups of flour left after the first batch of batter she made. She had  $6\frac{1}{2}$  cups of flour left after the second batch of batter she made. If she makes two more batches of batter, how many cups of flour will be left?

**1 cup of flour**

### Lesson Check (CC.5.NF.1)

1. What is a rule for the sequence?

$$\frac{5}{6}, 1\frac{1}{2}, 2\frac{1}{6}, 2\frac{5}{6}, \dots$$

(A) add  $1\frac{1}{4}$

(B) add  $\frac{2}{3}$

(C) subtract  $1\frac{1}{4}$

(D) subtract  $\frac{2}{3}$

2. Jaime biked  $5\frac{1}{4}$  miles on Monday,  $6\frac{7}{8}$  miles on Tuesday, and  $8\frac{1}{2}$  miles on Wednesday. If he continues the pattern, how many miles will he bike on Friday?

(A)  $10\frac{1}{8}$  miles

(B)  $10\frac{3}{4}$  miles

(C)  $11\frac{1}{8}$  miles

(D)  $11\frac{3}{4}$  miles

### Spiral Review (CC.5.OA.2, CC.5.NBT.5, CC.5.NBT.7)

3. Jaylyn rode her bicycle in a bike-a-thon. She rode 33.48 miles in 2.7 hours. If she rode at the same speed, what was her speed in miles per hour? (Lesson 5.6)

(A) 12.04

(B) 12.08

(C) 12.4

(D) 12.8

4. One week a company filled 546 boxes with widgets. Each box held 38 widgets. How many widgets did the company pack in boxes that week? (Lesson 1.7)

(A) 20,748

(B) 20,608

(C) 6,006

(D) 2,748

5. Which expression represents the statement "Add 9 and 3, then multiply by 6"? (Lesson 1.10)

(A)  $9 + 3 \times 6$

(B)  $6 \times (9 + 3)$

(C)  $6 \times 9 + 3$

(D)  $6 \times 9 \times 3$

6. Mason took 9.4 minutes to complete the first challenge in the Champs Challenge. He completed the second challenge 2.65 minutes faster than the first challenge. How long did it take Mason to complete the second challenge? (Lesson 3.9)

(A) 7.39 minutes

(B) 7.35 minutes

(C) 6.85 minutes

(D) 6.75 minutes