Write each fraction as a sum of unit fractions.

1 $\frac{2}{4} =$ _____

2 $\frac{5}{8} =$ _____

3 $\frac{2}{6} =$ _____

4 $\frac{7}{8} =$ _____

5 $\frac{4}{12} =$ _____

6 $\frac{6}{12} =$ _____

7 $\frac{8}{12} =$ _____

8 $\frac{4}{6} =$ _____

Name the fraction for each sum of unit fractions.

9 $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} =$ _____

10 $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} =$ _____

11 $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} =$ _____

12 $\frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} =$ _____

13 $\frac{1}{12} + \frac{1}{12} =$ _____

14 $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} =$ _____

15 $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} =$ _____

16 $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} =$ _____

Write three things you learned today about fractions.

_____

_____

_____

_____

Solve using any method and show your work.
Check your work with estimation.

1 2×87

2 35×64

3 336
    $\times \ \ 8$
    _____

Solve using any method.

4 $5\overline{)481}$

5 $4\overline{)2,575}$

6 $7\overline{)3,855}$

Simplify each expression.

7 $(7 - 3) \cdot 8 =$ _____

8 $(6 \times 3) \div (11 - 9) =$ _____

9 $9t - 3t =$ _____

10 $(12n - n) + 5n =$ _____

11 **Stretch Your Thinking** Kia has a long piece of ribbon.
She cuts the ribbon in half then cuts each of those
halves in half again. Draw the cut ribbon. Kia uses
3 of the cut pieces for wrapping bouquets of flowers.
Write a sum of unit fractions and the total to show
the amount of the ribbon she has used. What fraction
represents the amount she has left over?

_____
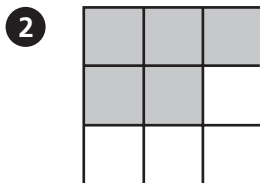
_____

_____

Name the fraction of the shape that is shaded and the fraction of the shape that is not shaded. Then, write an equation that shows how the two fractions make one whole.

1

2

3
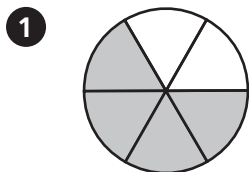
shaded: _____

unshaded: _____

equation: _____

shaded: _____

unshaded: _____

equation: _____

shaded: _____

unshaded: _____

equation: _____

Write the fraction that will complete each equation.

4 $1 = \frac{3}{3} = \frac{1}{3} +$ _____

5 $1 = \frac{8}{8} = \frac{3}{8} +$ _____

6 $1 = \frac{4}{4} = \frac{2}{4} +$ _____

7 $1 = \frac{10}{10} = \frac{7}{10} +$ _____

8 $1 = \frac{6}{6} = \frac{5}{6} +$ _____

9 $1 = \frac{9}{9} = \frac{8}{9} +$ _____

10 $1 = \frac{7}{7} = \frac{4}{7} +$ _____

11 $1 = \frac{12}{12} = \frac{9}{12} +$ _____

Solve.

Show your work.

12 Kim drank $\frac{1}{3}$ of a carton of milk. Joan drank $\frac{1}{4}$ of a carton of milk. Who drank more milk?

_____

_____

13 Maria read $\frac{1}{8}$ of a story. Darren read $\frac{1}{7}$ of the same story. Who read less of the story?

_____

_____

Write = or ≠ to make each statement true.

① 25 + 25 ◯ 50

② 17 + 3 ◯ 30 − 10

③ 9 + 8 ◯ 8 + 9

④ 31 ◯ 23 + 9

⑤ 3 + 1 + 12 ◯ 15

⑥ 40 − 22 ◯ 18

Solve each equation.

⑦ $8 \div b = 2$

$b =$ _____

⑧ $j \div 6 = 7$

$j =$ _____

⑨ $k = 5 \times 3$

$k =$ _____

⑩ $q \times 10 = 90$

$q =$ _____

⑪ $12 \times r = 36$

$r =$ _____

⑫ $a = 7 \times 8$

$a =$ _____

Write each fraction as a sum of unit fractions.

⑬ $\frac{4}{6} =$ _____

⑭ $\frac{6}{8} =$ _____

⑮ Stretch Your Thinking Margaret and June both made a pumpkin pie of the same size. Each cut her pie into equal pieces. Margaret's whole pie can be represented by the fraction $\frac{8}{8}$. June's whole pie can be represented by the fraction $\frac{6}{6}$. What is different about the two pies? If Margaret and June each eat 1 piece of their own pie, who will eat more? Explain how you know.

_____

_____

_____

_____

Solve.

1 $\frac{4}{8} + \frac{2}{8} = $ _____

2 $\frac{3}{11} + \frac{6}{11} = $ _____

3 $\frac{3}{4} - \frac{2}{4} = $ _____

4 $\frac{3}{5} + \frac{4}{5} = $ _____

5 $\frac{2}{6} + \frac{1}{6} = $ _____

6 $\frac{6}{7} - \frac{2}{7} = $ _____

7 $\frac{5}{12} + \frac{4}{12} = $ _____

8 $\frac{9}{10} - \frac{3}{10} = $ _____

9 $\frac{8}{9} - \frac{4}{9} = $ _____

Solve.

Show your work.

10 Sue is driving to see her mom. The first day she traveled $\frac{2}{5}$ of the distance. The next day she traveled another $\frac{2}{5}$ of the distance. What fraction of the distance has she driven?

_____

11 When Keshawn sharpens her pencil, she loses about $\frac{1}{12}$ of the length. One day, she sharpened her pencil 3 times. The next day she sharpened the same pencil 5 times. What fraction of the pencil did Keshawn sharpen away?

_____

12 One day, a flower shop sold $\frac{7}{10}$ of its roses in the morning and $\frac{2}{10}$ of its roses in the afternoon. What fraction of its roses did the shop sell that day?

_____

13 Bonnie's orange was cut into eighths. She ate $\frac{3}{8}$ of the orange and her friend ate $\frac{3}{8}$ of it. Did they eat the whole orange? Explain.

_____

14 Write and solve a fraction word problem of your own.

_____

_____

_____

Solve the comparison problem.

1 There are 108 cars parked in front of a building. This is 4 times the number of cars that are parked in the back of the building. How many cars are parked in the back of the building?

_____

Write a number sentence to answer each question.

2 How many millimeters are equal to 8 meters?

_____

3 How many centimeters are equal to 35 kilometers?

_____

4 How many meters are equal to 72 kilometers?

_____

Name the fraction that will complete each equation.

5 $1 = \frac{6}{6} = \frac{4}{6} +$ _____

6 $1 = \frac{10}{10} = \frac{1}{10} +$ _____

7 $1 = \frac{3}{3} = \frac{2}{3} +$ _____

8 $1 = \frac{8}{8} = \frac{4}{8} +$ _____

9 **Stretch Your Thinking** Lilly started the morning with a glass of juice that was $\frac{4}{5}$ full. She drank $\frac{3}{5}$ of the glass, then partially refilled with another $\frac{2}{5}$ of a glass. At this point, how full is Lilly's glass with juice? Explain your answer.

_____

_____

Add and Subtract Fractions with Like Denominators

Name _____ **Date** _____

Write the equivalent fraction.

1 $6\frac{2}{5}$ = _____

2 $2\frac{3}{8}$ = _____

3 $4\frac{6}{7}$ = _____

4 $8\frac{1}{3}$ = _____

5 $3\frac{7}{10}$ = _____

6 $5\frac{5}{6}$ = _____

7 $7\frac{3}{4}$ = _____

8 $1\frac{4}{9}$ = _____

Write the equivalent mixed number.

9 $\frac{50}{7}$ = _____

10 $\frac{16}{10}$ = _____

11 $\frac{23}{4}$ = _____

12 $\frac{50}{5}$ = _____

13 $\frac{21}{8}$ = _____

14 $\frac{11}{3}$ = _____

15 $\frac{60}{9}$ = _____

16 $\frac{23}{5}$ = _____

Solve.

Show your work.

17 Castor brought $6\frac{3}{4}$ small carrot cakes to share with the 26 students in his class. Did Castor bring enough for each student to have $\frac{1}{4}$ of a cake? Explain your thinking.

_____

_____

18 Claire cut some apples into eighths. She and her friends ate all but 17 pieces. How many whole apples and parts of apples did she have left over? Tell how you know.

_____

_____

**Write and solve an equation to solve each problem.
Draw comparison bars when needed.**

Show your work.

1 Brigitte fostered 14 dogs this year, which is 5 less than last year. How many dogs did Brigitte foster last year?

_____

2 Rema has two jobs. In one year, she worked 276 hours at her first job. In the same year, she worked 3 times the number of hours at her second job. How many hours did Rema work that year at her second job?

_____

Complete.

3 How many milliliters are equal to 21 L? _____

4 How many milligrams are equal to 9 g? _____

5 How many grams are equal to 400 kg? _____

Solve.

6 $\frac{3}{4} - \frac{1}{4} =$ _____

7 $\frac{2}{9} + \frac{3}{9} =$ _____

8 $\frac{7}{8} - \frac{1}{8} =$ _____

9 **Stretch Your Thinking** Harrison says that to convert a mixed number to a fraction greater than 1, he thinks of it this way: $4\frac{2}{5} = \frac{5}{5} + \frac{5}{5} + \frac{5}{5} + \frac{5}{5} + \frac{2}{5} = \frac{22}{5}$. Does his strategy work? Explain.

_____

_____

_____

_____

_____

Mixed Numbers and Fractions Greater Than 1

Add.

1 $3\frac{2}{6}$
    $+\ 6\frac{3}{6}$

2 $8\frac{5}{10}$
    $+\ 9\frac{6}{10}$

3 $7\frac{3}{4}$
    $+\ 4\frac{2}{4}$

4 $1\frac{5}{9}$
    $+\ 5\frac{7}{9}$

5 $3\frac{2}{5}$
    $+\ 3\frac{3}{5}$

6 $1\frac{2}{8}$
    $+\ 2\frac{5}{8}$

Subtract.

7 $7\frac{2}{3}$
    $-\ 3\frac{1}{3}$

8 $8\frac{2}{7}$
    $-\ 5\frac{5}{7}$

9 $6\frac{1}{4}$
    $-\ 2\frac{3}{4}$

10 $9\frac{1}{8}$
    $-\ 4\frac{5}{8}$

11 $9\frac{4}{6}$
    $-\ 4\frac{1}{6}$

12 $3\frac{1}{5}$
    $-\ 2\frac{3}{5}$

Add or subtract.

13 $\frac{1}{4}+\frac{7}{4}=$ _____

14 $\frac{3}{8}+\frac{6}{8}=$ _____

15 $\frac{9}{6}-\frac{8}{6}=$ _____

16 $\frac{5}{9}+\frac{6}{9}=$ _____

17 $\frac{9}{2}-\frac{6}{2}=$ _____

18 $\frac{5}{10}-\frac{2}{10}=$ _____

19 $\frac{2}{5}+\frac{4}{5}=$ _____

20 $\frac{8}{7}-\frac{3}{7}=$ _____

20 $\frac{7}{3}-\frac{2}{3}=$ _____

The graph shows the number of miles Matt ran during a week of training for a marathon. Use the graph for Exercises 1–2.

1 On which day did Matt run 3 times the number of miles as he ran on Monday?

_____

2 Write an addition equation and a subtraction equation that compares the number of miles Matt ran on Thursday (x) to the number of miles he ran on Tuesday (y).

_____

Running Record

Miles	

(Bar graph showing Miles by Day: Sunday 18, Monday 6, Tuesday 12, Wednesday 0, Thursday 19, Friday 0, Saturday 13)

Day
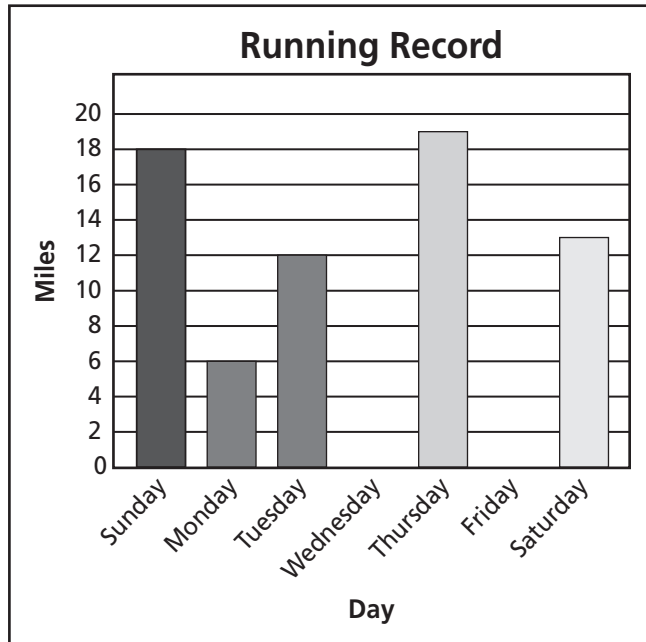
Convert each measurement.

3 4 min = _____ sec

4 12 hrs = _____ min

5 5 days = _____ hrs

6 2 days = _____ min

Write the equivalent mixed number.

7 $\frac{9}{4}$ = _____

8 $\frac{12}{3}$ = _____

9 $\frac{63}{10}$ = _____

10 $\frac{11}{2}$ = _____

11 $\frac{14}{4}$ = _____

12 $\frac{15}{6}$ = _____

13 **Stretch Your Thinking** Garrett picked $12\frac{7}{8}$ pounds of peaches. Elise picked $13\frac{3}{8}$ pounds of peaches. Who picked more peaches? How much more? Explain.

_____

_____

_____

_____

Add and Subtract Mixed Numbers with Like Denominators

Write each mixed number as a fraction.

1 $6\frac{5}{8} =$ _____

2 $2\frac{1}{4} =$ _____

3 $8\frac{3}{10} =$ _____

4 $4\frac{2}{6} =$ _____

Write each fraction as a mixed number.

5 $\frac{26}{3} =$ _____

6 $\frac{47}{7} =$ _____

7 $\frac{59}{7} =$ _____

8 $\frac{44}{5} =$ _____

Add or subtract.

9 $\frac{2}{3} + \frac{2}{3} =$ _____

10 $\frac{5}{7} - \frac{3}{7} =$ _____

11 $1\frac{3}{9} + \frac{7}{9} =$ _____

12 $\frac{3}{4} + 3\frac{3}{4} =$ _____

12 $2\frac{4}{15} - \frac{10}{15} =$ _____

13 $\frac{15}{20} - \frac{6}{20} =$ _____

15 $3\frac{3}{5} - 3\frac{1}{5} =$ _____

16 $1\frac{1}{6} + 2\frac{2}{6} =$ _____

17 $2\frac{7}{8} - 1\frac{2}{8} =$ _____

Solve.

Show your work.

18 Rashid made a loaf of bread that called for $3\frac{1}{3}$ cups of flour. He combined white flour and whole wheat flour. If he used $1\frac{2}{3}$ cups of white flour, how much whole wheat flour did he use?

_____

19 Manuela spent $1\frac{3}{4}$ hours writing her book report. Katy spent $\frac{3}{4}$ hour more time on her book report than Manuela spent. How much time did Katy spend writing her report?

_____

Add or subtract.

1   23,546
    + 3,198

2   50,427
    − 27,152

3   850,000
    − 541,086

Use an equation to solve.   *Show your work.*

4 Each of Caroline's 2 older cats gets 7 ounces of food each day. Her younger cat gets 9 ounces of food each day. How much food does Caroline feed her cats altogether each day?

_____

5 Chad shares his 84 toy cars equally among his 3 friends and himself. Then he donates 15 cars to a used toy collection. How many cars does Chad have left?

_____

Add.

6 $3\frac{4}{9}$
    $+ 5\frac{2}{9}$

7 $7\frac{1}{5}$
    $+ 2\frac{2}{5}$

8 $9\frac{7}{10}$
    $+ 8\frac{4}{10}$

9 $5\frac{2}{7}$
    $+ 2\frac{1}{7}$

10 **Stretch Your Thinking** Chris ordered pizza for his family from a company that cuts its pizzas into 8 slices each. The fraction of a pizza eaten by each family member is shown in the table at the right. If they had less than 1 whole pizza left over, how many pizzas did they order? What fraction of a pizza was left over? Show your work.

Family member	Fraction of pizza eaten
Chris	$\frac{3}{8}$
Stacy	$\frac{2}{8}$
Rylan	$\frac{4}{8}$
Alec	$\frac{5}{8}$
Kelli	$\frac{3}{8}$

_____

_____

Multiply.

1 $3 \times \frac{1}{4} =$ _____

2 $5 \times \frac{1}{3} =$ _____

3 $4 \times \frac{1}{6} =$ _____

4 $7 \times \frac{1}{7} =$ _____

5 $2 \times \frac{1}{8} =$ _____

6 $3 \times \frac{1}{10} =$ _____

7 $2 \times \frac{3}{4} =$ _____

8 $12 \times \frac{2}{3} =$ _____

9 $12 \times \frac{5}{6} =$ _____

10 $3 \times \frac{2}{7} =$ _____

11 $24 \times \frac{5}{8} =$ _____

12 $8 \times \frac{3}{10} =$ _____

13 $20 \times \frac{3}{5} =$ _____

14 $9 \times \frac{5}{9} =$ _____

15 $10 \times \frac{7}{12} =$ _____

Solve.

Show your work.

16 Manuel eats $\frac{1}{8}$ of a melon for a snack each day. How much melon does he eat in five days?

_____

17 Shannen collects paper for recycling. She collects $\frac{1}{3}$ pound of paper each week. How much paper will she collect in 4 weeks?

_____

18 Aisha is unpacking boxes. It takes $\frac{3}{4}$ hour to unpack each box. How long will it take her to unpack 6 boxes?

_____

19 Mrs. Suarez cut a pizza into 8 equal slices. Each person in her family ate 2 slices. If there are 3 people in her family, what fraction of the pizza did they eat altogether?

_____

20 Hailey is knitting a scarf. Each half hour, she adds $\frac{3}{7}$ inch to the scarf's length. How much length will she add to the scarf in 6 hours?

_____

Use an equation to solve.

Show your work.

1 Camille bought 2 pairs of pants for $29 each and a shirt for $18. She paid with $80. How much did she get in change?

_____

2 On a trip, four friends spend $212 on hotels, and $56 on meals. How much money did they spend per person?

_____

Complete the tables.

3

Yards	Feet
2	
5	
8	
10	

4

Feet	Inches
3	
4	
9	
12	

Add or subtract.

5 $\frac{9}{10} - \frac{3}{10} =$ _____

6 $\frac{2}{5} + \frac{4}{5} =$ _____

7 $2\frac{1}{8} + 5\frac{3}{8} =$ _____

8 $8\frac{6}{7} - 8\frac{2}{7} =$ _____

9 $4\frac{3}{6} + 1\frac{5}{6} =$ _____

10 $7\frac{1}{4} - 4\frac{3}{4} =$ _____

11 **Stretch Your Thinking** A worm moves forward $\frac{3}{8}$ inch every 5 minutes for 1 hour 25 minutes. How far does the worm move in this time? Explain.

_____

_____

Multiply a Fraction by a Whole Number

Draw a model for each problem. Then solve.

1 $4 \cdot \frac{1}{5} =$ _____

2 $7 \cdot \frac{1}{3} =$ _____

3 $2 \cdot \frac{3}{8} =$ _____

4 $5 \cdot \frac{3}{4} =$ _____

Multiply.

5 $12 \cdot \frac{5}{6} =$ _____

6 $9 \cdot \frac{1}{2} =$ _____

7 $25 \cdot \frac{3}{7} =$ _____

8 $12 \cdot \frac{4}{5} =$ _____

9 $5 \cdot \frac{2}{12} =$ _____

10 $9 \cdot \frac{2}{3} =$ _____

Write an equation. Then solve.   *Show your work.*

11 Cal's shoe is $\frac{3}{4}$ foot long. He used his shoe to measure his bedroom and found that it was 15 shoes long. What is the length of Cal's room in feet?

_____

12 The cafeteria at a summer camp gives each camper $\frac{2}{3}$ cup of juice for breakfast. This morning, 50 campers had juice for breakfast. How much juice did the cafeteria serve in all?

_____

Solve each problem.

1 $24 \div 8 + 9 = h$

_____

2 $(14 \div 2) - (3 \times 2) = l$

_____

3 $20 - (5 \times 4) = p$

_____

4 $(2 \times 9) + 9 = g$

_____

5 $(3 + 7) \times (2 + 4) = m$

_____

6 $(9 \div 3) + (5 - 4) = t$

_____

Solve.

Show your work.

7 A baby weighs 7 pounds 2 ounces at birth. How many ounces does the baby weigh?

_____

8 Jack bought 2 quarts of motor oil. His car took 1 quart and another half quart. How many cups of oil does he have left?

_____

Multiply.

9 $6 \times \frac{1}{7} =$ _____

10 $5 \times \frac{3}{8} =$ _____

11 $2 \times \frac{9}{10} =$ _____

12 $8 \times \frac{3}{4} =$ _____

13 $3 \times \frac{1}{3} =$ _____

14 $15 \times \frac{3}{11} =$ _____

15 **Stretch Your Thinking** Write a word problem using the whole number 4 and the fraction $\frac{3}{8}$. Then solve your problem.

_____

_____

_____

Practice Multiplying a Fraction by a Whole Number

Name _____ Date _____

Add or subtract.

1 $2\frac{2}{3}$
  $+\ 4\frac{1}{3}$
  _____

2 $9\frac{7}{9}$
  $-\ 4\frac{5}{9}$
  _____

3 $5\frac{4}{5}$
  $+\ 7\frac{3}{5}$
  _____

4 8
  $-\ 1\frac{1}{6}$
  _____

5 $18\frac{5}{8}$
  $+\ 12\frac{7}{8}$
  _____

6 $10\frac{1}{4}$
  $-\ 3\frac{3}{4}$
  _____

Multiply. Write your answer as a mixed number or a whole number, when possible.

7 $5 \cdot \frac{1}{5} =$ _____

8 $5 \cdot \frac{4}{7} =$ _____

9 $20 \cdot \frac{3}{10} =$ _____

10 $8 \cdot \frac{1}{6} =$ _____

11 $9 \cdot \frac{7}{12} =$ _____

12 $2 \cdot \frac{4}{9} =$ _____

Write an equation. Then solve. *Show your work.*

13 At the science-club picnic $\frac{2}{3}$ cup of potato salad will be served to each student. If 20 students attend the picnic, how much potato salad will be needed?

_____

14 Skye spent $4\frac{2}{6}$ hours reading over the weekend. If she read $1\frac{5}{6}$ hours on Saturday, how long did she read on Sunday?

_____

Tell whether 3 is a factor of each number. Write *yes* or *no*.

1 12   **2** 14   **3** 38   **4** 51

_____   _____   _____   _____

Tell whether each number is a multiple of 6. Write *yes* or *no*.

5 46   **6** 54   **7** 21   **8** 30

_____   _____   _____   _____

Find the area and perimeter for rectangles with the lengths and widths shown.

9 l = 7 units   **10** l = 2 units   **11** l = 7 units

w = 8 units w = 4 units w = 5 units

A = _____ A = _____ A = _____

P = _____ P = _____ P = _____

Write an equation. Then solve.   *Show your work.*

12 Mattie walks $\frac{3}{4}$ mile to school and then back each day. How many miles does she walk to and from school in 5 days?

_____

13 A certain postage stamp is 2 inches long and $\frac{5}{6}$ inches wide. What is the area of the stamp?

_____

14 **Stretch Your Thinking** For a woodworking project, Tyler has cut 14 boards that are each $\frac{3}{4}$ yard and one board that is $2\frac{1}{4}$ yards. What is the total length of the boards Tyler has cut? Show your work.

_____

A pizza garden is a smaller version of a pizza farm. You can make a pizza garden at your home or in your community.

1 Use the circle below to draw a vegetarian pizza garden with 8 wedges. In each wedge, show one of the following vegetarian ingredients: wheat, fruit, vegetables, Italian herbs, and dairy cows. Use each type of ingredient at least once.
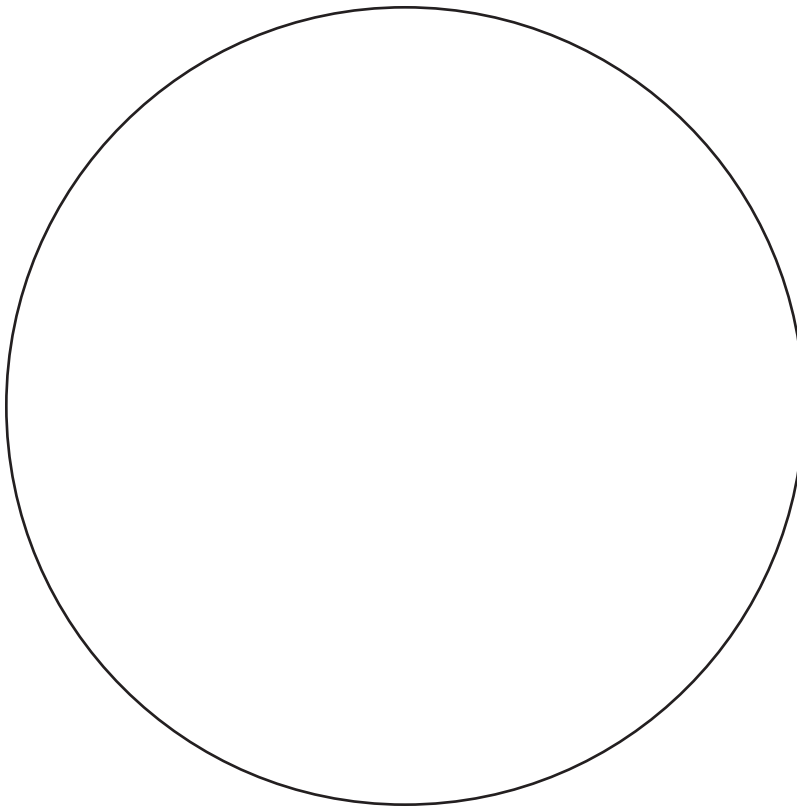
2 What fraction of your pizza garden is made up of wheat or fruit?

_____

3 What fraction of your pizza garden is *not* made up of vegetables?

_____

Use the rule to find the next five terms in the pattern.

1 7, 14, 28, 56, …

Rule: multiply by 2

_____

2 10, 18, 26, 34, …

Rule: add 8

_____

Use the rule to find the first ten terms in the pattern.

3 First term: 3   Rule: multiply by 2

_____

Solve.

4 A rectangular vegetable garden is 10 yards by 7 yards. What is the perimeter of the garden in feet?

_____

_____

Multiply. Change fractions greater than 1 to mixed numbers or whole numbers.

5 $7 \cdot \frac{3}{5} =$ _____

6 $12 \cdot \frac{1}{2} =$ _____

7 $9 \cdot \frac{3}{10} =$ _____

8 **Stretch Your Thinking** The table shows the amount of snowfall, in inches, during the winter months last year and this year. How much would it have to snow in February this year for the total snowfall this winter to be the same as last winter? Show your work.

Last Year			This Year		
Dec.	Jan.	Feb.	Dec.	Jan.	Feb.
$27\frac{7}{8}$	$17\frac{1}{8}$	$26\frac{3}{8}$	$35\frac{5}{8}$	$11\frac{1}{8}$	?

_____

_____