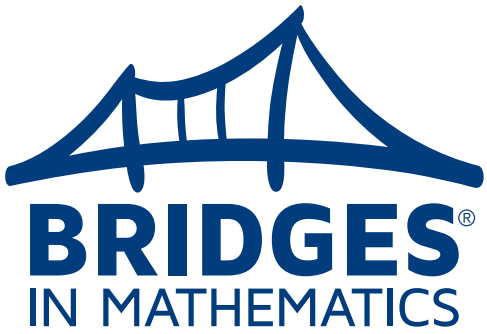


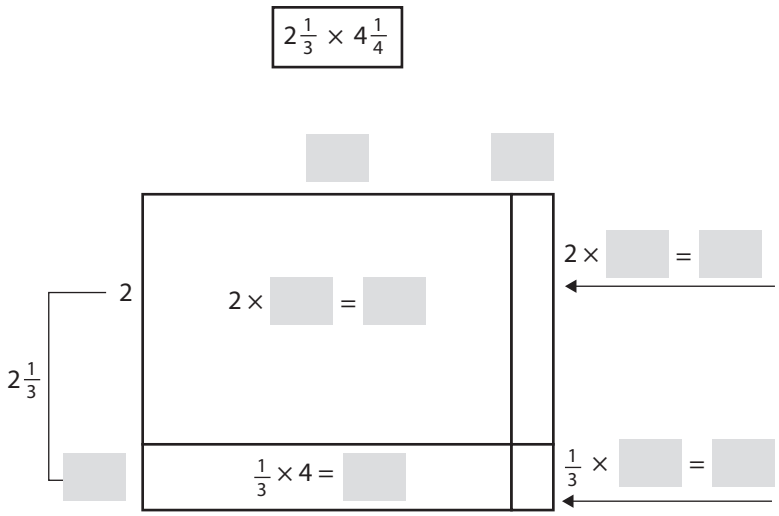
Grade 5 Unit 6 Module 4
Practice Pages for Math at Home

NAME | DATE

Aaron's Arrays

1 Aaron is setting up an array to solve $2\frac{1}{3} \times 4\frac{1}{4}$.

a Fill in the blanks on the array.



b $2\frac{1}{3} \times 4\frac{1}{4} =$ _____ + _____ + _____ + _____ = _____

2 Aaron needs to solve $1\frac{4}{5} \times 2\frac{1}{2}$.

a Sketch and label an array that shows $1\frac{4}{5} \times 2\frac{1}{2}$.

b $1\frac{4}{5} \times 2\frac{1}{2} =$ _____ + _____ + _____ + _____ = _____

3 Fill in the blanks:

a $3\frac{1}{2} \times 14 =$ _____ $\times 7 =$ _____

b $32 \times 2\frac{1}{4} = 16 \times$ _____ = _____

c $24 \times$ _____ $= 12 \times 15 =$ _____

Review

4 Solve. Use the strategy that makes the most sense to you.

49.5	27.25	30.01	62.50
+ 53.6	× 16	− 26.49	× 24

NAME | DATE

Sophia's Work

1 Sophia solved $2\frac{1}{6} - 1\frac{2}{3}$ like this:

$$2\tfrac{1}{6} - 1\tfrac{2}{3} =$$

$$2 - 1 = 1$$

$$\tfrac{2}{3} - \tfrac{1}{6} = \tfrac{4}{6} - \tfrac{1}{6} = \tfrac{3}{6}$$

$$2\tfrac{1}{6} - 1\tfrac{2}{3} = 1\tfrac{3}{6}$$

a Sophia did not get the correct answer. Can you explain why?

b How would you solve $2\frac{1}{6} - 1\frac{2}{3}$?

2 Sophia has to read 5 books each month. By the middle of April, she had read $1\frac{5}{8}$ books. How many more books does Sophia need to read before the end of April?

3 Write a story problem for this expression: $2\frac{1}{4} \times 1\frac{3}{8}$. Then solve the problem.

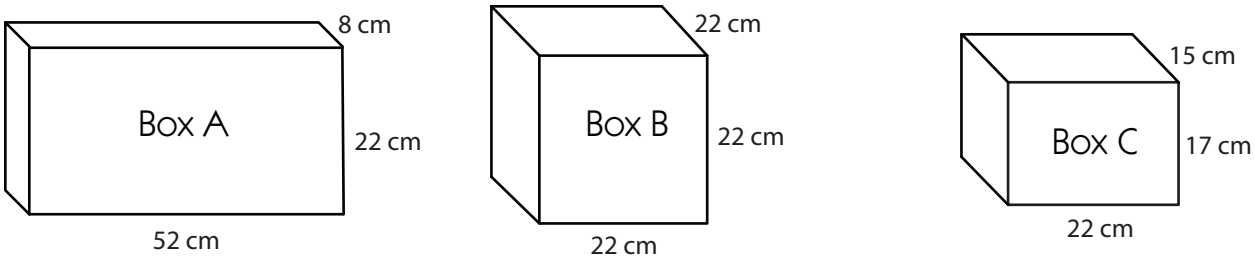
4 Fill in the blanks.

$\frac{8}{8} \times$ _____ $= 12$ $\frac{18}{9} \times$ _____ $= 10$ $\frac{5}{5} \times 5 =$ _____

NAME | DATE

Boxes & Banners

1 Ebony's cousin Jada is away at college this year. Ebony wants to send her a package with some candy in it. She has the three boxes shown below. Which box should she use if she wants to send Jada as much candy as possible?



a What do you need to know about the boxes in order to answer the question above?

b Solve the problem. Show all your work.

2 Ebony also made a banner for Jada to hang on the door of her dormitory room. The banner is $1\frac{1}{4}$ feet wide and $2\frac{1}{2}$ feet long.

a Mark the bubble to show which flag-making ratio Ebony used.

○ 2:3 ○ 3:5 ○ 1:2 ○ 3:4

b What is the area of the banner? Make a labeled sketch to model and solve this problem. Show all of your work.

NAME | DATE

Simplifying Fractions Review

1 Divide the numerator and denominator of each fraction by the largest factor they have in common (the greatest common factor) to show each fraction in its simplest form. A fraction is in its simplest form when its numerator and denominator have no common factor other than 1. Some of the fractions below may already be in simplest form.

Fraction	Factors of the Numerator (top number)	Factors of the Denominator (bottom number)	Greatest Common Factor	Divide	Simplest Form
ex $\frac{21}{24}$	1, (3) 7, 21	1, 2, (3) 4, 6, 8, 12, 24	3	$\frac{21 \div 3}{24 \div 3} = \frac{7}{8}$	$\frac{7}{8}$
a $\frac{14}{16}$				$\frac{14 \div \square}{16 \div \square} = \frac{\square}{\square}$	$\frac{\square}{\square}$
b $\frac{16}{21}$				$\frac{16 \div \square}{21 \div \square} = \frac{\square}{\square}$	$\frac{\square}{\square}$
c $\frac{27}{36}$				$\frac{27 \div \square}{36 \div \square} = \frac{\square}{\square}$	$\frac{\square}{\square}$
d $\frac{15}{36}$				$\frac{15 \div \square}{36 \div \square} = \frac{\square}{\square}$	$\frac{\square}{\square}$

2 Write two fractions that are equal to the fraction shown.

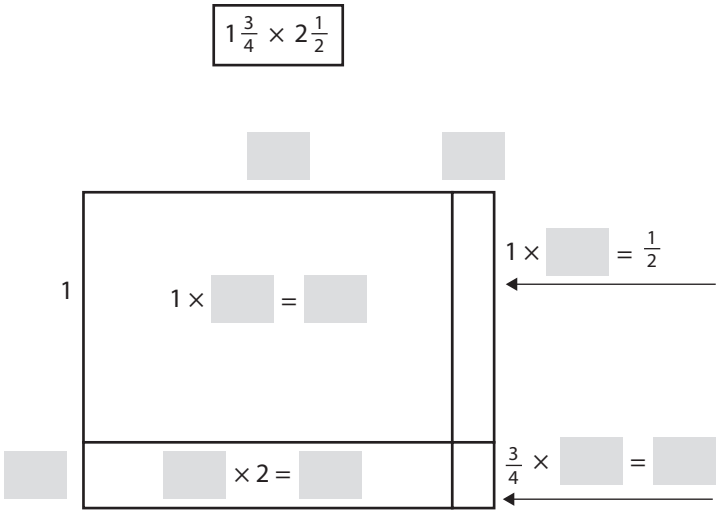
ex $\frac{3}{4} = \frac{6}{8}$ and $\frac{3}{4} = \frac{9}{12}$	**a** $\frac{6}{21} = \frac{\square}{\square}$ and $\frac{6}{21} = \frac{\square}{\square}$
b $\frac{3}{15} = \frac{\square}{\square}$ and $\frac{3}{15} = \frac{\square}{\square}$	**c** $\frac{7}{12} = \frac{\square}{\square}$ and $\frac{7}{12} = \frac{\square}{\square}$

NAME | DATE

Abby's Arrays page 1 of 2

1 Abby is setting up an array to solve $1\frac{3}{4} \times 2\frac{1}{2}$.

a Fill in the blanks on the array.



b Fill in the blanks: $1\frac{3}{4} \times 2\frac{1}{2}$ = _____ + _____ + _____ + _____ = _____

2 Abby needs to solve $2\frac{1}{2} \times 3\frac{2}{5}$.

a Sketch and label an array that shows $2\frac{1}{2} \times 3\frac{2}{5}$.

b Use your sketch to solve the problem:

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

(continued on next page)

NAME | DATE

Abby's Arrays page 2 of 2

3 Use doubling and halving to fill in the blanks and solve the problems.

a $5\frac{1}{4} \times 12 =$ _____ $\times 6 =$ _____

b $16 \times 3\frac{1}{2} = 8 \times$ _____ = _____

c $36 \times$ _____ $= 18 \times 9 =$ _____

d $15 \times 6\frac{2}{3} =$ _____ $\times 3\frac{1}{3} =$ _____

4 Adam made a birthday card for his sister. The rectangular card was $6\frac{1}{2}$ inches by $9\frac{1}{3}$ inches. What is the area of the birthday card? Make a labeled sketch to model and solve this problem. Show all of your work.

5 Convert these fractions to decimals.

a $\frac{8}{10} = 0.$_____

b $\frac{3}{4} = 0.$_____

c $\frac{4}{5} = 0.$_____

d $\frac{6}{5} =$ __.____

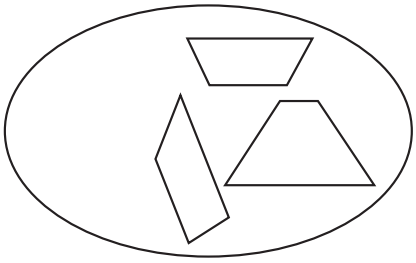
6 **CHALLENGE** Justin got a sack of jelly beans in 5 different colors. Half of them were red, $\frac{1}{6}$ were green, $\frac{1}{6}$ were yellow, $\frac{1}{12}$ were orange, and 6 were black. How many of each color did he get, and how many jelly beans were there in all? Show your work.

NAME | DATE

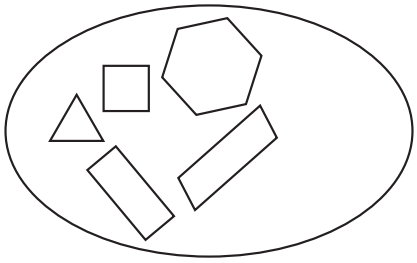
Unit 6 Review page 1 of 2

Use the diagrams below to answer the following questions.

Trapezoids



Not Trapezoids



1 List three properties of a trapezoid.

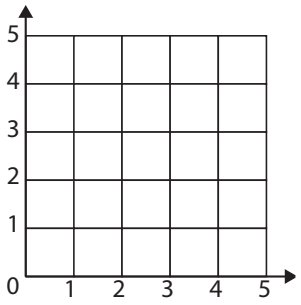
2 Fill in the bubbles beside all the other names you could use for a trapezoid.

- ○ quadrilateral
- ○ rectangle
- ○ triangle
- ○ polygon

3 Explain why a trapezoid can't be called a parallelogram.

4 While playing Polygon Search, Shana graphed the points (1,2), (4,2), (4,5) and (1,5).

a Graph the ordered pairs.



b Name the shape that Shana drew. _____

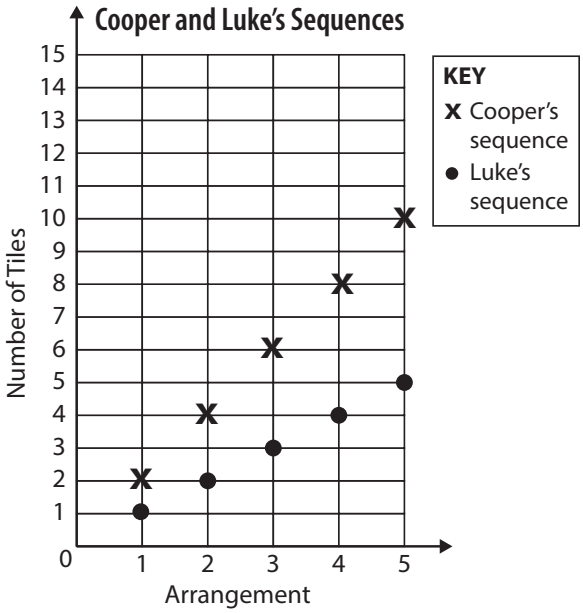
c List 2 properties of this shape.

(continued on next page)

NAME | DATE

Unit 6 Review page 1 of 2

5 Cooper and Luke each made a sequence with tiles. Then they graphed their sequences on the same coordinate grid.



a List the first 5 ordered pairs of Cooper's sequence:

1,2				

b List the first 5 ordered pairs of Luke's sequence:

c What can you tell about the boys' tile sequences from looking at the graph they made? Fill in the bubbles beside all the correct observations.

- ○ Cooper used twice as many tiles as Luke in each arrangement.
- ○ Cooper started with 3 tiles and added 2 more tiles for each new arrangement.
- ○ Luke's third arrangement had 6 tiles.
- ○ There would be 12 tiles in Cooper's sixth arrangement.

6 A packing box is 3 feet wide, 5 feet long, and 8 feet high. What is its volume? Show your work.

7 Shanti keeps her school supplies in a little container with a base that is 7″ by 7″. The volume of the container is 343 cubic inches.

a What is the height of the container? Show your work.

b What shape is the container? How do you know?

Answer Keys

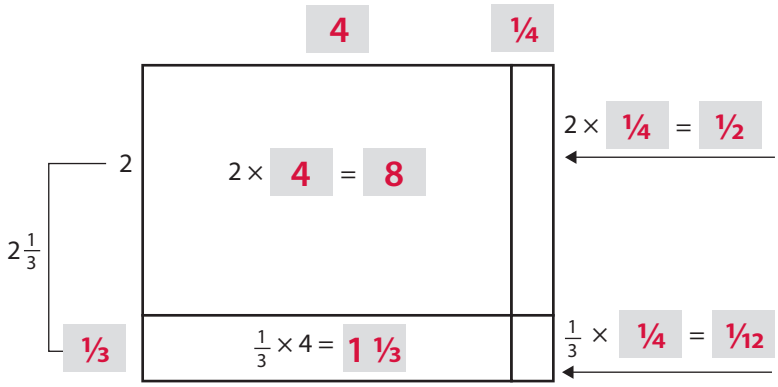
NAME | DATE

Aaron's Arrays

1 Aaron is setting up an array to solve $2\frac{1}{3} \times 4\frac{1}{4}$.

a Fill in the blanks on the array.

$2\frac{1}{3} \times 4\frac{1}{4}$



b $2\frac{1}{3} \times 4\frac{1}{4}$ = 8 + ½ + 1 ⅓ + 1/12 = 9 11/12

2 Aaron needs to solve $1\frac{4}{5} \times 2\frac{1}{2}$.

a Sketch and label an array that shows $1\frac{4}{5} \times 2\frac{1}{2}$.

	2	½	
1	1 × 2 = 2	½	← 1 × ½ = ½
4/5	4/5 × 2 = 1 3/5	4/10	← 4/5 × ½ = 4/10

(1 4/5)

b $1\frac{4}{5} \times 2\frac{1}{2}$ = 2 + ½ + 1 3/5 + 4/10 = 4 ½

3 Fill in the blanks:

a $3\frac{1}{2} \times 14$ = 7 × 7 = 49

b $32 \times 2\frac{1}{4} = 16 \times$ 4 ½ = 72

c $24 \times$ 7 ½ = 12×15 = 180

Review

4 Solve. Use the strategy that makes the most sense to you.

49.5	27.25	30.01	62.50
+ 53.6	× 16	− 26.49	× 24
103.1	436	3.52	1,500

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Sophia's Work

1 Sophia solved $2\frac{1}{6} - 1\frac{2}{3}$ like this:

$2\frac{1}{6} - 1\frac{2}{3} =$

$2 - 1 = 1$

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

$2\frac{1}{6} - 1\frac{2}{3} = 1\frac{3}{6}$

a Sophia did not get the correct answer. Can you explain why?

Explanations will vary. (She subtracted ⅙ from ⅔ instead of rewriting the minuend and the subtrahend as fractions with a common denominator.)

b How would you solve $2\frac{1}{6} - 1\frac{2}{3}$?

Responses will vary. Example:
2 ⅙ – 1 ⅔ = 13⁄6 – 10⁄6 = 3⁄6 = ½

2 Sophia has to read 5 books each month. By the middle of April, she had read $1\frac{5}{8}$ books. How many more books does Sophia need to read before the end of April?

3 ⅜ books

3 Write a story problem for this expression: $2\frac{1}{4} \times 1\frac{3}{8}$. Then solve the problem.

3 ³⁄₃₂; story problems will vary.

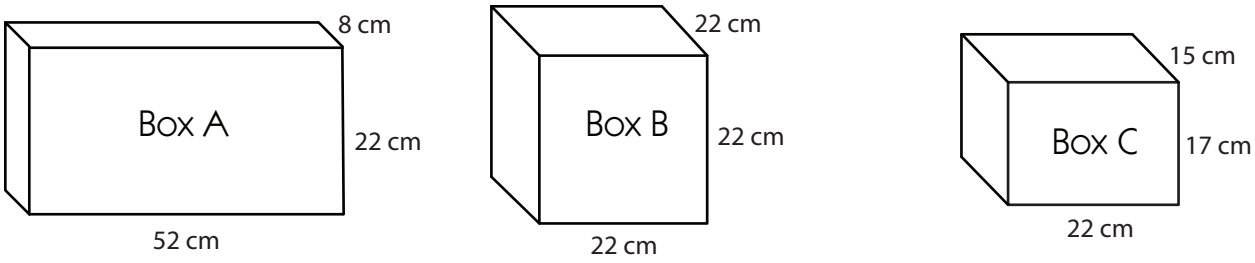
4 Fill in the blanks.

$\frac{8}{8} \times$ **12** $= 12$ $\frac{18}{9} \times$ **5** $= 10$ $\frac{5}{5} \times 5 =$ **5**

NAME | DATE

Boxes & Banners

1 Ebony's cousin Jada is away at college this year. Ebony wants to send her a package with some candy in it. She has the three boxes shown below. Which box should she use if she wants to send Jada as much candy as possible?



a What do you need to know about the boxes in order to answer the question above?

Their volume

b Solve the problem. Show all your work.

Jada should us Box B. Work will vary. Volume of each box shown here.
Box A: 52 × 22 × 8 = 9,152 cm³
Box B: 22 × 22 × 22 = 10,648 cm³
Box C: 22 × 17 × 15 = 5,610 cm³

2 Ebony also made a banner for Jada to hang on the door of her dormitory room. The banner is $1\frac{1}{4}$ feet wide and $2\frac{1}{2}$ feet long.

a Mark the bubble to show which flag-making ratio Ebony used.

○ 2:3 ○ 3:5 ● 1:2 ○ 3:4

b What is the area of the banner? Make a labeled sketch to model and solve this problem. Show all of your work.

3 ⅛ sq. feet; work will vary.
Example:

	2′	½′
1′	2 × 1 = 2	1 × ½ = ½
¼′	2 × ¼ = ½	¼ × ½ = ⅛

Area = 2 + ½ + ½ + ⅛ = 3 ⅛ sq. ft.

NAME | DATE

Simplifying Fractions Review

1 Divide the numerator and denominator of each fraction by the largest factor they have in common (the greatest common factor) to show each fraction in its simplest form. A fraction is in its simplest form when its numerator and denominator have no common factor other than 1. Some of the fractions below may already be in simplest form.

Fraction	Factors of the Numerator (top number)	Factors of the Denominator (bottom number)	Greatest Common Factor	Divide	Simplest Form
ex $\frac{21}{24}$	1, (3) 7, 21	1, 2, (3) 4, 6, 8, 12, 24	3	$\frac{21 \div 3}{24 \div 3} = \frac{7}{8}$	$\frac{7}{8}$
a $\frac{14}{16}$	1, 2, 7, 14	1, 2, 4, 8, 16	2	$\frac{14 \div 2}{16 \div 2} = \frac{7}{8}$	$\frac{7}{8}$
b $\frac{16}{21}$	1, 2, 4, 8, 16	1, 3, 7, 21	1	$\frac{16 \div 1}{21 \div 1} = \frac{16}{21}$	$\frac{16}{21}$
c $\frac{27}{36}$	1, 3, 9, 27	1, 2, 3, 4, 6, 9, 12, 18, 36	9	$\frac{27 \div 9}{36 \div 9} = \frac{3}{4}$	$\frac{3}{4}$
d $\frac{15}{36}$	1, 3, 5, 15	1, 2, 3, 4, 6, 9, 12, 18, 36	3	$\frac{15 \div 3}{36 \div 3} = \frac{5}{12}$	$\frac{5}{12}$

2 Write two fractions that are equal to the fraction shown.

Answers will vary. Example:

ex $\frac{3}{4} = \frac{6}{8}$ and $\frac{3}{4} = \frac{9}{12}$	**a** $\frac{6}{21} = \frac{2}{7}$ and $\frac{6}{21} = \frac{12}{42}$
b $\frac{3}{15} = \frac{1}{5}$ and $\frac{3}{15} = \frac{6}{30}$	**c** $\frac{7}{12} = \frac{14}{24}$ and $\frac{7}{12} = \frac{21}{36}$

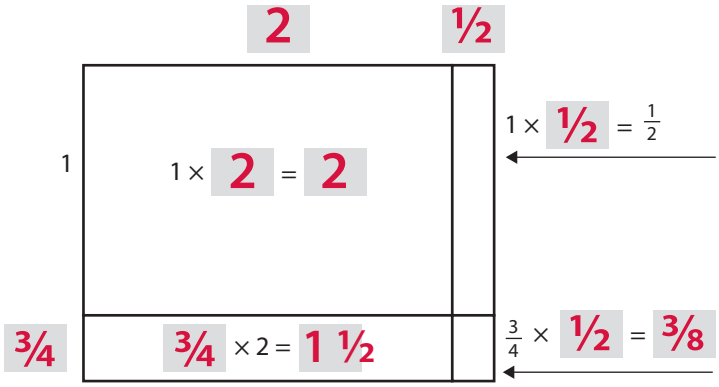
NAME | DATE

Abby's Arrays page 1 of 2

1 Abby is setting up an array to solve $1\frac{3}{4} \times 2\frac{1}{2}$.

a Fill in the blanks on the array.

$1\frac{3}{4} \times 2\frac{1}{2}$



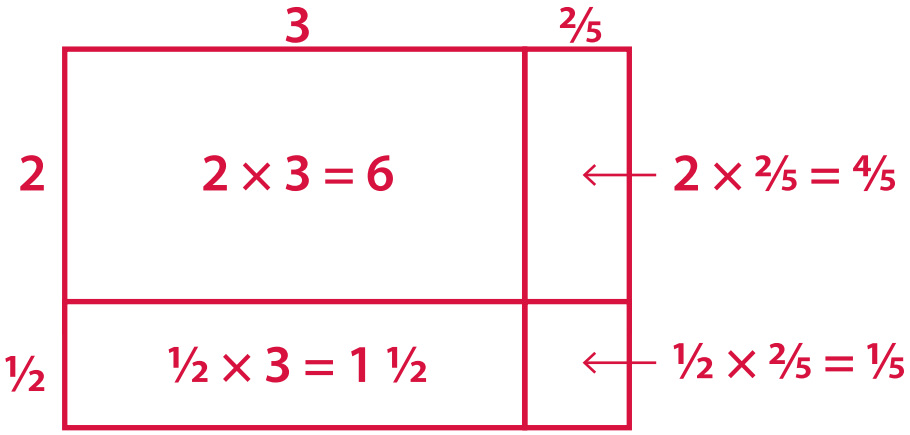
b Fill in the blanks: $1\frac{3}{4} \times 2\frac{1}{2} =$ 2 + 1 ½ + ½ + ⅜ = 4 ⅜

Order of addition of the numbers may vary.
Equivalent fractions may be used.

2 Abby needs to solve $2\frac{1}{2} \times 3\frac{2}{5}$.

a Sketch and label an array that shows $2\frac{1}{2} \times 3\frac{2}{5}$.

Work may vary slightly.



b Use your sketch to solve the problem:

$2\frac{1}{2} \times 3\frac{2}{5} =$ 6 + 1 ½ + ⅘ + ⅕ = 8 ½

Order of addition of the numbers may vary.
Equivalent fractions may be used.

(continued on next page)

NAME | DATE

Abby's Arrays page 2 of 2

3 Use doubling and halving to fill in the blanks and solve the problems.

a $5\frac{1}{4} \times 12 =$ 10 ½ × 6 = 63

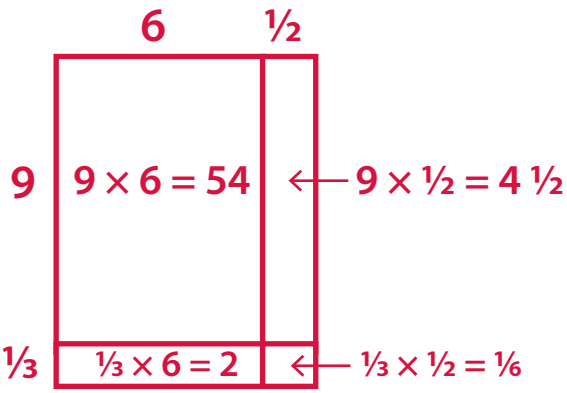
b $16 \times 3\frac{1}{2} = 8 \times$ 7 = 56

c $36 \times$ 4 ½ = $18 \times 9 =$ 162

d $15 \times 6\frac{2}{3} =$ 30 $\times 3\frac{1}{3} =$ 100

4 Adam made a birthday card for his sister. The rectangular card was $6\frac{1}{2}$ inches by $9\frac{1}{3}$ inches. What is the area of the birthday card? Make a labeled sketch to model and solve this problem. Show all of your work.

60 ⅔ sq. inches.
Work may vary slightly.



5 Convert these fractions to decimals.

a $\frac{8}{10} = 0.$ 8

b $\frac{3}{4} = 0.$ 75

c $\frac{4}{5} = 0.$ 8

d $\frac{6}{5} =$ 1.2

6 **CHALLENGE** Justin got a sack of jelly beans in 5 different colors. Half of them were red, $\frac{1}{6}$ were green, $\frac{1}{6}$ were yellow, $\frac{1}{12}$ were orange, and 6 were black. How many of each color did he get, and how many jelly beans were there in all? Show your work.

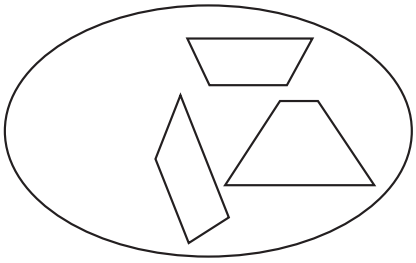
72 jelly beans
6 black
6 orange
12 yellow
12 green
36 red
Work will vary.

NAME | DATE

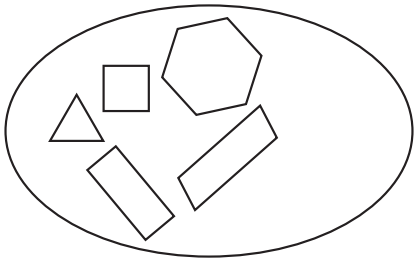
Unit 6 Review page 1 of 2

Use the diagrams below to answer the following questions.

Trapezoids



Not Trapezoids



1 List three properties of a trapezoid.

Possibilities include: 4 sides, exactly 1 pair of parallel sides, 4 corners (vertices), 4 angles, quadrilateral, polygon

2 Fill in the bubbles beside all the other names you could use for a trapezoid.

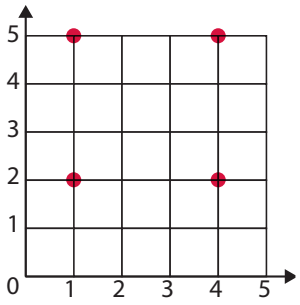
- ● quadrilateral
- ○ rectangle
- ○ triangle
- ● polygon

3 Explain why a trapezoid can't be called a parallelogram.

Explanations will vary. (A parallelogram has two pairs of parallel sides; a trapezoid has only one pair of parallel sides.)

4 While playing Polygon Search, Shana graphed the points (1,2), (4,2), (4,5) and (1,5).

a Graph the ordered pairs.



b Name the shape that Shana drew. **Square**

c List 2 properties of this shape.

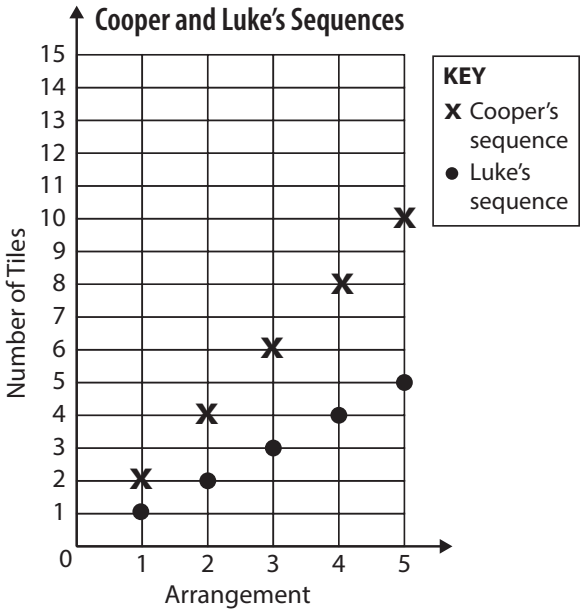
Possibilities include: 4 congruent sides, 4 right angles, rhombus, parallelogram, quadrilateral, polygon

(continued on next page)

NAME | DATE

Unit 6 Review page 1 of 2

5 Cooper and Luke each made a sequence with tiles. Then they graphed their sequences on the same coordinate grid.



a List the first 5 ordered pairs of Cooper's sequence:

1,2	2,4	3,6	4,8	5,10

b List the first 5 ordered pairs of Luke's sequence:

1,1	2,2	3,3	4,4	5,5

c What can you tell about the boys' tile sequences from looking at the graph they made? Fill in the bubbles beside all the correct observations.

- ● Cooper used twice as many tiles as Luke in each arrangement.
- ○ Cooper started with 3 tiles and added 2 more tiles for each new arrangement.
- ○ Luke's third arrangement had 6 tiles.
- ● There would be 12 tiles in Cooper's sixth arrangement.

6 A packing box is 3 feet wide, 5 feet long, and 8 feet high. What is its volume? Show your work.

120 cubic feet
Work will vary.

7 Shanti keeps her school supplies in a little container with a base that is 7″ by 7″. The volume of the container is 343 cubic inches.

a What is the height of the container? Show your work.

7 inches
Work will vary.

b What shape is the container? How do you know?

A cube (or a square prism), because all of the dimensions are equal.