

Student name _____



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- 1** Write and solve an equation to represent this situation: Jackson has 48 pattern blocks. He has 8 times as many pattern blocks as Vanessa. How many pattern blocks does Vanessa have?

- 2** Write a story problem that involves a multiplicative comparison for this equation:
 $8 \times 5 = 40$.

- 3** Mario has 17 baseball cards in his collection. Julia has 6 times as many baseball cards as Mario does.
 - a** How many baseball cards does Julia have? Use numbers, labeled sketches, or words to solve this problem. Show your work.

 - b** Write an equation to represent the problem.

- 4** True or False?
 - a** 4 and 6 are both factors of 24 and 36. _____
 - b** 38 is a multiple of 3. _____
 - c** 3 and 6 are both factors of 18 and 29. _____
 - d** 19 is a prime number. _____
 - e** 1, 2, 3, 4, 6, and 12 are all the factors of 12. _____

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5 Darius is training for a marathon. He wants to run 100 miles over the next couple of weeks. Darius ran 8 miles a day for 3 days. Then, he ran 6 miles a day for 5 days. How many more miles does he still have to run to get to his goal of 100 miles?

a Sonia estimated that Darius would need to run about 70 more miles to get to his goal of 100 miles. Is this a reasonable estimate? Why or why not?

b Write an equation for this problem with a letter standing for the unknown quantity.

c Solve the problem. Show your work using numbers, pictures, or words.

6 Fill in the blanks.

a $60 \times \underline{\hspace{1cm}} = 600$

b $60 \times 30 = \underline{\hspace{1cm}}$

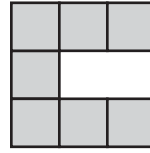
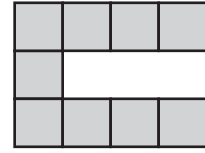
c $\underline{\hspace{1cm}} \times 300 = 18,000$

7 Round. Fill in the table.

Number	Nearest 10	Nearest 100	Nearest 1,000	Nearest 10,000	Nearest 100,000
3,467,425					
2,815,948					

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8 Here are the first 4 arrangements in a tile sequence.

**Arrangement 1****Arrangement 2****Arrangement 3****Arrangement 4**

a Sketch the 5th and 6th arrangements in this sequence.

Arrangement 5	Arrangement 6

b Fill in the table to show how many tiles it takes to build each of the first 10 arrangements in the sequence.

Arrangement Number	1	2	3	4	5	6	7	8	9	10
Number of Tile to Build	3	5								

c Describe and explain two different patterns you notice in the tile arrangements or the numbers in the table.

d How many tiles would it take to build the 21st arrangement in the sequence shown above? Use labeled sketches, numbers, or words to help figure it out. Show all your work.

Comprehensive Growth Assessment page 4 of 16**9** Fill in the table below.

Base Ten Numeral	Number Name	Expanded Form
463,812		
		50,000 + 3,000 + 900 + 7
	one million, twenty-four thousand, three hundred fifty	

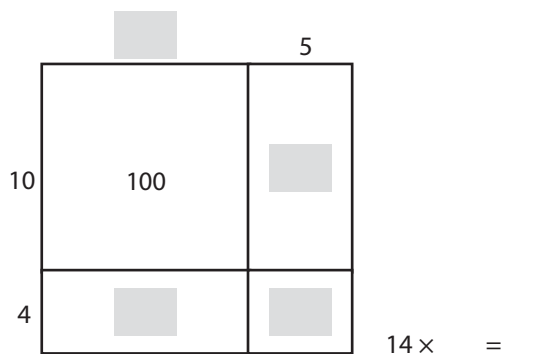
10 Fill in the blanks. Use <, >, or =.

a 4,879,708 4,879,078

b 5,543,998 5,544,001

11 Use the standard addition and subtraction algorithms to solve these problems.
Show your work.

$\begin{array}{r} 34,587 \\ + 68,305 \\ \hline \end{array}$	$\begin{array}{r} 308,691 \\ - 92,877 \\ \hline \end{array}$
---	--

12 Fill in the blanks on the array. Then determine the total product and complete the equation beside the array.

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13 Use an efficient strategy to solve each multiplication problem. Show your work.

$\begin{array}{r} 235 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 26 \\ \times 32 \\ \hline \end{array}$
--	--

14 Use an efficient strategy to solve this division problem. Show your work.

$$288 \div 9 = \square$$

15 Sam's class is going on a field trip to the science museum. There are 31 people in Sam's class.

a If each car can hold 4 people (not including the driver), how many cars do they need to take all 31 people in Sam's class to the museum? Show your work using numbers, sketches, or words.

b If there is was a remainder, how did you handle it? Why?

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16 After visiting the science museum, Sam's class went out for pizza. There were 6 kids and 21 slices of pizza at Sam's table.

a If they share all the pizza evenly, how much pizza can each of the 6 kids have? Show your work using numbers, sketches, or words.

b If there is was a remainder, how did you handle it? Why?

17 Akiko says that $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent fractions. Do you agree with Akiko? Why or why not? Include a labeled sketch in your explanation.

18 Use the symbols $<$, $>$, and $=$ to compare each pair of fractions.

$$\frac{2}{3} \quad \square \quad \frac{4}{6}$$

$$\frac{4}{8} \quad \square \quad \frac{5}{12}$$

$$\frac{3}{4} \quad \square \quad \frac{9}{10}$$

$$\frac{8}{6} \quad \square \quad 1\frac{2}{6}$$

19 Emir says, "I have $\frac{1}{4}$ of a yard of rope. Lily has $\frac{1}{4}$ of a foot of rope. If we add our parts together, we will have $\frac{2}{4}$ of a yard of rope." Do you agree or disagree with Emir? Explain.

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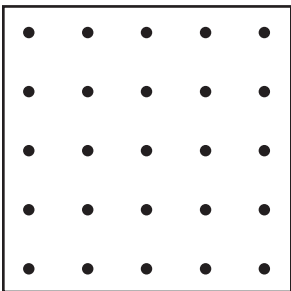
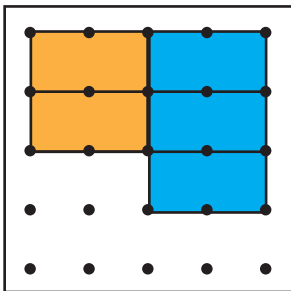
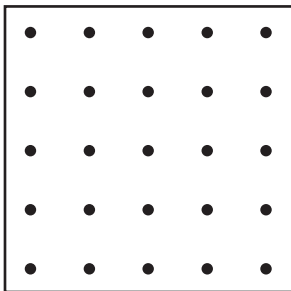
20 Theo says that $\frac{5}{8}$ is less than $\frac{6}{12}$ because 5 is less than 6, and 8 is less than 12. Do you agree with Theo? Why or why not? Include a labeled sketch in your explanation.

21 Kim has $\frac{1}{3}$ of a pie. Matt has $\frac{1}{6}$ of a pie. Mark *all* the statements about this situation that are true.

- ☐ We know for sure that Kim has more pie than Matt.
- ☐ If the pies are exactly the same size, Matt has a smaller piece than Kim.
- ☐ If the pieces are exactly the same size, Matt has a larger piece than Kim.
- ☐ If Matt's pie was bigger than Kim's pie to start, Matt might have more pie than Kim.

22 There are several different ways to write $\frac{5}{8}$ as the sum of fractions with the same denominator.

- Make a sketch on the geoboard to match the equation in the first box.
- Write an equation to match the sketch in the second box.
- Write an equation and make a sketch to show a *different* way to write $\frac{5}{8}$ as the sum of fractions with the same denominator.

a $\frac{5}{8} = \frac{4}{8} + \frac{1}{8}$	b $\frac{5}{8} =$	c $\frac{5}{8} =$
		

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- 23** Paul and the other kids in his scout troop are learning how to make rope. On Monday, Paul made $\frac{1}{6}$ of a meter of rope. On Tuesday, he made $\frac{4}{6}$ of a meter of rope. How much rope did Paul make on Monday and Tuesday put together? Show your work using numbers, sketches, or words. Label your answer with the correct units.
- 24** Isabel brought $1\frac{3}{4}$ liters of lemonade to a party. Andrew brought $3\frac{3}{4}$ liters of lemonade to the party. How much lemonade do they have together? Show your work using numbers, sketches, or words. Label your answer with the correct units.
- 25** Max and Zoe raced their pet snails. Max's snail moved $9\frac{3}{8}$ centimeters. Zoe's snail moved $7\frac{7}{8}$ centimeters. How much farther did Max's snail move than Zoe's? Show your work using numbers, sketches, or words. Label your answer with the correct units.
- 26** Fill in the blanks to complete each equation.

a $\frac{5}{12} = 5 \times \square$

b $\frac{9}{8} = \square \times \frac{1}{8}$

c $\frac{4}{5} = \square \times \frac{1}{5}$

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27 Zara says that $4 \times \frac{2}{3}$ is the same as $8 \times \frac{1}{3}$. Do you agree or disagree? Explain

28 Multiply.

a $5 \times \frac{1}{3} =$

b $6 \times \frac{3}{4} =$

29 6 people each ate $\frac{3}{8}$ of a pizza. How much pizza did all 6 people eat? Show your work with numbers, sketches, or words.

30 Fill in the blanks.

$$\frac{2}{10} = \frac{\square}{100}$$

$$\frac{90}{100} = \frac{\square}{10}$$

$$\frac{6}{10} = 0.\square$$

$$\frac{85}{100} = 0.\square$$

31 Rabya says she can add $\frac{4}{10}$ and $\frac{37}{100}$ by thinking about $\frac{4}{10}$ as $\frac{40}{100}$ and then adding $\frac{40}{100}$ and $\frac{37}{100}$. Do you agree or disagree? Explain.

32 Use the symbols $<$, $>$, and $=$ to compare each pair of decimals.

$$0.7 \square 0.89$$

$$0.60 \square 0.06$$

$$1.3 \square 1.25$$

$$2.24 \square 1.99$$

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33 Leo has 0.3 meter of ribbon. Sara has 0.3 decimeter of ribbon. Leo says they have the same amount of ribbon. Do you agree or disagree? Explain.

34 Mark the word that best completes each sentence.

a I would use centimeters to measure the length of a

- ☐ pencil ☐ sandbox ☐ racetrack

b I would use liters to measure the amount of water in a

- ☐ teaspoon ☐ coffee cup ☐ bathtub

c To find the mass of 5 paperclips, I would use

- ☐ milligrams ☐ grams ☐ kilograms

d To measure how long it takes to walk from our classroom to the office and back, I would use

- ☐ seconds ☐ minutes ☐ hours

e To find the weight of an apple, I would use

- ☐ ounces ☐ pounds ☐ tons

35 Fill in the table to show how many inches there are in different numbers of feet.

Feet	1	2	3	4	5	10	15	24
Inches								

36 Fill in the blanks.

a 3 yards = ____ feet

b 9 meters = ____ centimeters

c 6 kilograms = ____ grams

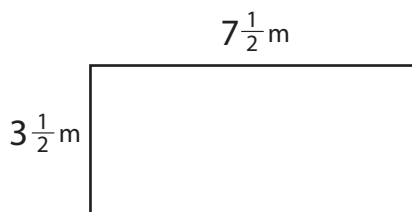
d 5 liters = ____ milliliters

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37 Kiara woke up at 7:15. It took her 20 minutes to get ready for school and 10 minutes to walk to the bus stop. What time did Kiara get to the bus stop? Use a labeled sketch to show and solve this problem.

38 When Darius is in training, he drinks lots of water. Yesterday, he drank 2 liters of water during his run. When he got home again, he drank 450 milliliters of water. How many milliliters of water did he drink in all? Show your work. Label your answer with the correct units.

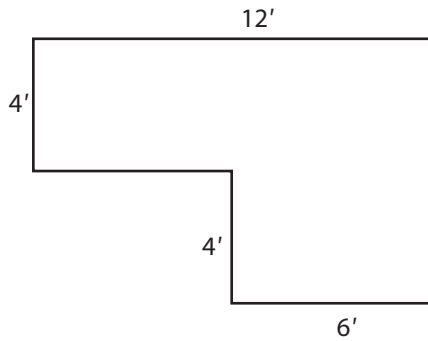
39 What is the perimeter of the rectangle? Show your work. Label your answer with the correct units.



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40 Here is a sketch map of the Jacksons' kitchen. They are planning to put in new tiles that will cover the entire floor.

- a** What is the area of the Jackson's kitchen floor? Show your work. Label your answer with the correct units.



- b** The tiles are each 1 square foot (1 foot by 1 foot), and they come in packages of 10. How many packages of tiles will the Jacksons need to buy? Show all your work.

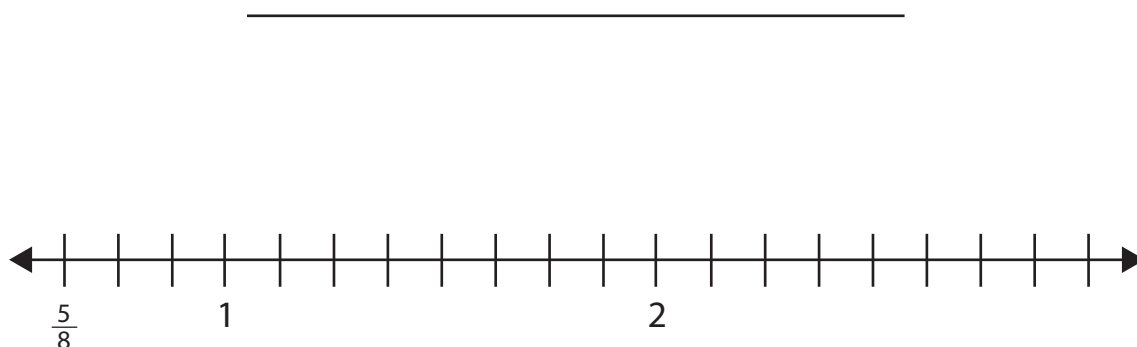
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- 41** Mr. Alonzo's students kept track of how much they grew during fourth grade. The table below shows how much some of the students grew during fourth grade.

Student	Inches Grown
Alison	$1\frac{3}{8}$ in.
Darius	$2\frac{1}{2}$ in.
Akiko	$\frac{3}{4}$ in.
Miranda	$1\frac{7}{8}$ in.

Student	Inches Grown
Kyle	3 in.
Maria	$1\frac{1}{4}$ in.
Marco	$1\frac{3}{8}$ in.

- a** Make a line plot to show the data, using the line below. Label the rest of the marks along the line, and then enter the data points. Add a title above the line plot and a label below the line to explain what the numbers mean.



- b** If you combine the number of inches Marco and Miranda grew, what is the total? Show your work.
- c** How much more did Kyle grow this year than Alison? Show your work.

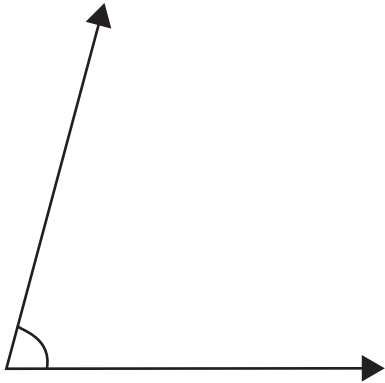
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- 42** A video camera is monitoring a store. Every second, it turns one degree. After 90 seconds, what is the measure of the angle formed by the turning of the video camera?

- 43** Use your protractor to solve both of these problems.

a Measure this angle.

b Sketch an angle that measures 30° .



The measure of this angle is ____°

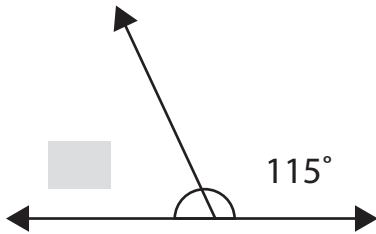
- 44** Luke made a 90 degree turn on his snowboard. Then, he turned 160 degrees more. As you answer the questions below, it may help to draw a sketch.

a Write and solve an equation to show how far Luke turned in all.

b Write and solve an equation that shows how much farther Luke needs to turn to make a complete circle.

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- 45** Write and solve an equation to find the measure of the mystery angle below. Write the answer in the gray box.



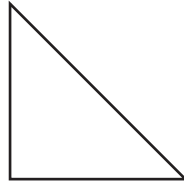
- 46** Draw an example to illustrate each word or phrase below. Use a ruler to help make your drawings neat and accurate.

Note You can use a geoboard and rubber bands to build any of these before you sketch them on the sheet.

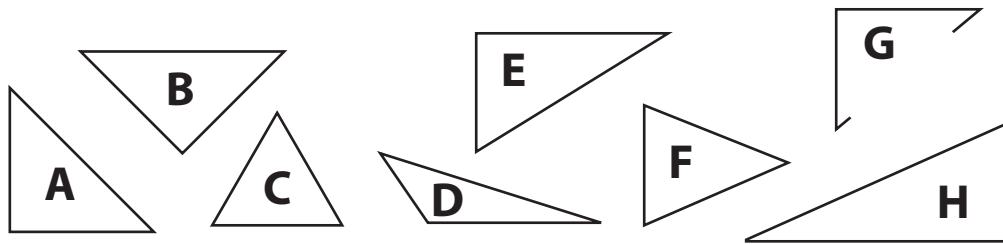
An acute angle	A right triangle	A polygon with one or more pairs of perpendicular sides
A right angle	A quadrilateral with exactly one pair of parallel sides and exactly one line of symmetry	An obtuse angle

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- 47** How many lines of symmetry does each of the figures below have? Write the number below the figure, and draw in the lines of symmetry (if there are any) on each figure.



- 48** Use this collection of figures to answer the questions below.



- a** Find all the right triangles and color them blue.
- b** Ari says figure G is not a right triangle. Do you agree? Why or why not?
- c** Jane says that figure H is not a right triangle because the sides are all different lengths. Do you agree? Why or why not?

- 49** Mark every statement about quadrilaterals that is true.

- ☐ All quadrilaterals have 4 sides.
- ☐ All quadrilaterals have exactly 2 pairs of parallel sides.
- ☐ Some quadrilaterals have at least 1 pair of perpendicular sides.
- ☐ There is no such thing as a quadrilateral with 1 or more obtuse angles.
- ☐ Some quadrilaterals have exactly 2 lines of symmetry.

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- 1** Write and solve an equation to represent this situation: Jackson has 48 pattern blocks. He has 8 times as many pattern blocks as Vanessa. How many pattern blocks does Vanessa have?
6 pattern blocks. Acceptable equations include:
 $48 \div 8 = 6$ or $8 \times 6 = 48$ or $6 \times 8 = 48$
- 2** Write a story problem that involves a multiplicative comparison for this equation:
 $8 \times 5 = 40$.
Work will vary. Example:
I have 8 toy cars. My friend has 5 times as many toy cars as I do. How many toy cars does my friend have?
- 3** Mario has 17 baseball cards in his collection. Julia has 6 times as many baseball cards as Mario does.
- a** How many baseball cards does Julia have? Use numbers, labeled sketches, or words to solve this problem. Show your work.
102 baseball cards
 $17 \times 6 = 102$ or $6 \times 17 = 102$
Work will vary.
- b** Write an equation to represent the problem.
 $17 \times 6 = (10 \times 6) + (7 \times 6) = 60 + 42 = 102$
- 4** True or False?
- a** 4 and 6 are both factors of 24 and 36. **T**
- b** 38 is a multiple of 3. **F**
- c** 3 and 6 are both factors of 18 and 29. **F**
- d** 19 is a prime number. **T**
- e** 1, 2, 3, 4, 6, and 12 are all the factors of 12. **T**

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5 Darius is training for a marathon. He wants to run 100 miles over the next couple of weeks. Darius ran 8 miles a day for 3 days. Then, he ran 6 miles a day for 5 days. How many more miles does he still have to run to get to his goal of 100 miles?

- a** Sonia estimated that Darius would need to run about 70 more miles to get to his goal of 100 miles. Is this a reasonable estimate? Why or why not?

No. Explanations will vary. Example: 70 is too much.

$8 \times 3 = 24$ and $6 \times 5 = 30$, so he's already gone more than 50 miles.

- b** Write an equation for this problem with a letter standing for the unknown quantity. **Responses will vary. Acceptable equations include:**

$$100 - ((8 \times 3) + (6 \times 5)) = m, 100 - (24 + 30) = m,$$

$$100 - 54 = m, \text{ and } 54 + m = 100.$$

- c** Solve the problem. Show your work using numbers, pictures, or words.

46 miles. Work will vary.

6 Fill in the blanks.

a $60 \times \underline{10} = 600$

b $60 \times 30 = \underline{1,800}$

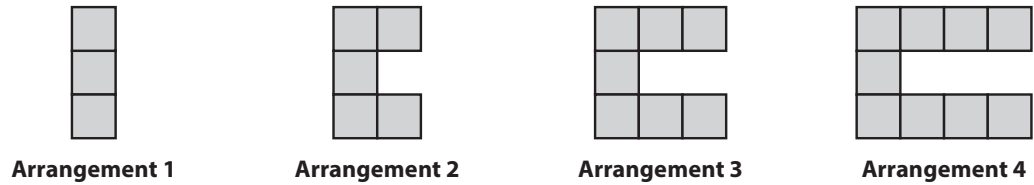
c $\underline{60} \times 300 = 18,000$

7 Round. Fill in the table.

Number	Nearest 10	Nearest 100	Nearest 1,000	Nearest 10,000	Nearest 100,000
3,467,425	3,467,430	3,467,400	3,467,000	3,470,000	3,500,000
2,815,948	2,815,950	2,815,900	2,816,000	2,820,000	2,800,000

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8 Here are the first 4 arrangements in a tile sequence.



a Sketch the 5th and 6th arrangements in this sequence.

Arrangement 5	Arrangement 6

b Fill in the table to show how many tiles it takes to build each of the first 10 arrangements in the sequence.

Arrangement Number	1	2	3	4	5	6	7	8	9	10
Number of Tile to Build	3	5	7	9	11	13	15	17	19	21

c Describe and explain two different patterns you notice in the tile arrangements or the numbers in the table.

Responses will vary. Examples:
All the numbers of tiles are odd because it's always twice the arrangement number plus 1.
Every arrangement adds 2 more tiles.

d How many tiles would it take to build the 21st arrangement in the sequence shown above? Use labeled sketches, numbers, or words to help figure it out. Show all your work.

43 tiles. Work will vary. Example: 21
 1
 21
 $21 + 21 + 1 = 43$

Comprehensive Growth Assessment page 4 of 16**9** Fill in the table below.

Base Ten Numeral	Number Name	Expanded Form
463,812	four hundred sixty-three thousand, eight hundred twelve	$400,000 + 60,000 + 3,000 + 800 + 10 + 2$
53,907	fifty-three thousand, nine hundred seven	$50,000 + 3,000 + 900 + 7$
1,024,350	one million, twenty-four thousand, three hundred fifty	$1,000,000 + 20,000 + 4,000 + 300 + 50$

10 Fill in the blanks. Use $<$, $>$, or $=$.

a 4,879,708 $>$ 4,879,078

b 5,543,998 $<$ 5,544,001

11 Use the standard addition and subtraction algorithms to solve these problems. Show your work.

$\begin{array}{r} 34,587 \\ + 68,305 \\ \hline 102,892 \end{array}$	$\begin{array}{r} 308,691 \\ - 92,877 \\ \hline 215,814 \end{array}$
---	--

12 Fill in the blanks on the array. Then determine the total product and complete the equation beside the array.

	10	5	
10	100	50	
4	40	20	

$14 \times 15 = 210$

Comprehensive Growth Assessment page 5 of 16**13** Use an efficient strategy to solve each multiplication problem. Show your work.

$\begin{array}{r} 235 \\ \times 7 \\ \hline \end{array}$ 1,645 Work will vary. Example: $7 \times 200 = 1,400$ $7 \times 30 = 210$ $7 \times 5 = 35$ $1,400 + 210 + 35 = 1,645$	$\begin{array}{r} 26 \\ \times 32 \\ \hline \end{array}$ 832 Work will vary. Example: $10 \times 26 = 260$, so $30 \times 26 = 780$ $2 \times 26 = 52$ $780 + 52 = 832$
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14 Use an efficient strategy to solve this division problem. Show your work.

$$288 \div 9 = \mathbf{32}$$

Work will vary. Example:
 $9 \times 10 = 90$
 $9 \times 20 = 180$
 $9 \times 30 = 270$
 $288 - 270 = 18$, and $2 \times 9 = 18$
 $9 \times 32 = 288$, so $288 \div 9 = 32$

15 Sam's class is going on a field trip to the science museum. There are 31 people in Sam's class.

- a** If each car can hold 4 people (not including the driver), how many cars do they need to take all 31 people in Sam's class to the museum? Show your work using numbers, sketches, or words.

8 cars**Work will vary.**

- b** If there is was a remainder, how did you handle it? Why?

Student answers will vary. Example:

$31 \div 4 = 7 R3$, but you can't just leave 3 kids behind, so you need 1 more car, even though it won't be all the way full.

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16 After visiting the science museum, Sam’s class went out for pizza. There were 6 kids and 21 slices of pizza at Sam’s table.

- a** If they share all the pizza evenly, how much pizza can each of the 6 kids have? Show your work using numbers, sketches, or words.

3 $\frac{1}{2}$ pieces of pizza; work will vary.

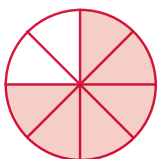
- b** If there is was a remainder, how did you handle it? Why?

Student answers will vary. Example: $21 \div 6 = 18 R3$, but you can cut up pizza, so each kid can have another half of a piece.

17 Akiko says that $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent fractions. Do you agree with Akiko? Why or why not? Include a labeled sketch in your explanation.

Agree. Explanations and sketches will vary. Example:

I made a circle and divided it into fourths. Then I colored in 3 of the fourths. Then I cut each fourth in half, and you can see that you get $\frac{6}{8}$.



18 Use the symbols $<$, $>$, and $=$ to compare each pair of fractions.

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

$$\frac{4}{8} > \frac{5}{12}$$

$$\frac{3}{4} < \frac{9}{10}$$

$$\frac{8}{6} = 1\frac{2}{6}$$

19 Emir says, “I have $\frac{1}{4}$ of a yard of rope. Lily has $\frac{1}{4}$ of a foot of rope. If we add our parts together, we will have $\frac{2}{4}$ of a yard of rope.” Do you agree or disagree with Emir? Explain.

Disagree. Explanations will vary. Example:

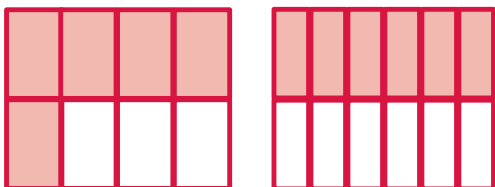
You can’t add $\frac{1}{4}$ of a foot and $\frac{1}{4}$ of a yard and say you have $\frac{2}{4}$ of a yard. You could add those if you changed them both to inches.

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- 20** Theo says that $\frac{5}{8}$ is less than $\frac{6}{12}$ because 5 is less than 6, and 8 is less than 12. Do you agree with Theo? Why or why not? Include a labeled sketch in your explanation.

Disagree; explanations will vary. Example:

You can see that $\frac{5}{8}$ is more than $\frac{6}{12}$.



- 21** Kim has $\frac{1}{3}$ of a pie. Matt has $\frac{1}{6}$ of a pie. Mark *all* the statements about this situation that are true.

- ☐ We know for sure that Kim has more pie than Matt.
- ☒ If the pies are exactly the same size, Matt has a smaller piece than Kim.
- ☐ If the pieces are exactly the same size, Matt has a larger piece than Kim.
- ☒ If Matt's pie was bigger than Kim's pie to start, Matt might have more pie than Kim.

- 22** There are several different ways to write $\frac{5}{8}$ as the sum of fractions with the same denominator.

- Make a sketch on the geoboard to match the equation in the first box.
- Write an equation to match the sketch in the second box.
- Write an equation and make a sketch to show a *different* way to write $\frac{5}{8}$ as the sum of fractions with the same denominator.

a $\frac{5}{8} = \frac{4}{8} + \frac{1}{8}$	b $\frac{5}{8} = \frac{2}{8} + \frac{3}{8}$	c $\frac{5}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{5}{8}$
Responses will vary. Example:		Responses will vary. Example:

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- 23** Paul and the other kids in his scout troop are learning how to make rope. On Monday, Paul made $\frac{1}{6}$ of a meter of rope. On Tuesday, he made $\frac{4}{6}$ of a meter of rope. How much rope did Paul make on Monday and Tuesday put together? Show your work using numbers, sketches, or words. Label your answer with the correct units.

$\frac{5}{6}$ meter

Work will vary.

- 24** Isabel brought $1\frac{3}{4}$ liters of lemonade to a party. Andrew brought $3\frac{3}{4}$ liters of lemonade to the party. How much lemonade do they have together? Show your work using numbers, sketches, or words. Label your answer with the correct units.

$5\frac{3}{4}$ liters or $5\frac{1}{2}$ liters

- 25** Max and Zoe raced their pet snails. Max's snail moved $9\frac{3}{8}$ centimeters. Zoe's snail moved $7\frac{7}{8}$ centimeters. How much farther did Max's snail move than Zoe's? Show your work using numbers, sketches, or words. Label your answer with the correct units.

$1\frac{4}{8}$ centimeters or $1\frac{1}{2}$ centimeters

- 26** Fill in the blanks to complete each equation.

a $\frac{5}{12} = 5 \times \frac{1}{12}$

b $\frac{9}{8} = 9 \times \frac{1}{8}$

c $\frac{4}{5} = 4 \times \frac{1}{5}$

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- 27** Zara says that $4 \times \frac{2}{3}$ is the same as $8 \times \frac{1}{3}$. Do you agree or disagree? Explain

Agree. Explanations will vary. Example:

$4 \times \frac{2}{3} = \frac{8}{3}$ and $8 \times \frac{1}{3} = \frac{8}{3}$. They're the same because every group of $\frac{2}{3}$ has 2 one-thirds in it, so 4 groups of $\frac{2}{3}$ is the same as 8 groups of $\frac{1}{3}$.

- 28** Multiply.

a $5 \times \frac{1}{3} = \frac{5}{3}$

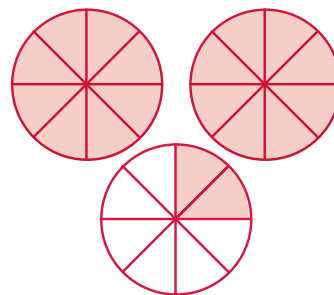
b $6 \times \frac{3}{4} = \frac{18}{4}$ or $4 \frac{2}{4}$ or $4 \frac{1}{2}$

- 29** 6 people each ate $\frac{3}{8}$ of a pizza. How much pizza did all 6 people eat? Show your work with numbers, sketches, or words.

$2 \frac{3}{4}$ or $2 \frac{1}{2}$ pizzas

Work will vary. Example:

I drew a pizza and cut it into 8 parts. I colored in 3 of the parts for the first person, 3 for the second, and so on. I kept drawing and coloring in pieces until there was enough. You can see that together, they ate $2 \frac{1}{2}$ pizzas.



- 30** Fill in the blanks.

$$\frac{2}{10} = \frac{\boxed{20}}{100}$$

$$\frac{90}{100} = \frac{\boxed{9}}{10}$$

$$\frac{6}{10} = 0.\boxed{6}$$

$$\frac{85}{100} = 0.\boxed{85}$$

- 31** Rabya says she can add $\frac{4}{10}$ and $\frac{37}{100}$ by thinking about $\frac{4}{10}$ as $\frac{40}{100}$ and then adding $\frac{40}{100}$ and $\frac{37}{100}$. Do you agree or disagree? Explain.

Agree. Explanations will vary. Example:

$\frac{4}{10} = \frac{40}{100}$ and $\frac{40}{100} + \frac{37}{100} = \frac{77}{100}$

- 32** Use the symbols $<$, $>$, and $=$ to compare each pair of decimals.

0.7 $<$ 0.89

0.60 $>$ 0.06

1.3 $>$ 1.25

2.24 $>$ 1.99

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- 33** Leo has 0.3 meter of ribbon. Sara has 0.3 decimeter of ribbon. Leo says they have the same amount of ribbon. Do you agree or disagree? Explain.

Disagree. Explanations will vary. Example:

Leo has more than Sara because $\frac{3}{10}$ of a meter is way more than $\frac{3}{10}$ of a decimeter.

- 34** Mark the word that best completes each sentence.

- a** I would use centimeters to measure the length of a
☒ pencil ☐ sandbox ☐ racetrack
- b** I would use liters to measure the amount of water in a
☐ teaspoon ☐ coffee cup ☒ bathtub
- c** To find the mass of 5 paperclips, I would use
☐ milligrams ☒ grams ☐ kilograms
- d** To measure how long it takes to walk from our classroom to the office and back, I would use
☐ seconds ☒ minutes ☐ hours
- e** To find the weight of an apple, I would use
☒ ounces ☐ pounds ☐ tons

- 35** Fill in the table to show how many inches there are in different numbers of feet.

Feet	1	2	3	4	5	10	15	24
Inches	12	24	36	48	60	120	180	288

- 36** Fill in the blanks.

a 3 yards = 9 feet

b 9 meters = 900 centimeters

c 6 kilograms = 6,000 grams

d 5 liters = 5,000 milliliters

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- 37** Kiara woke up at 7:15. It took her 20 minutes to get ready for school and 10 minutes to walk to the bus stop. What time did Kiara get to the bus stop? Use a labeled sketch to show and solve this problem.

7:45 Work will vary. Example:

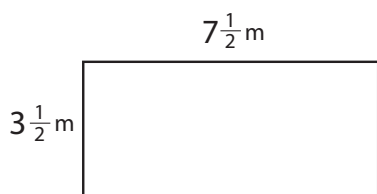


- 38** When Darius is in training, he drinks lots of water. Yesterday, he drank 2 liters of water during his run. When he got home again, he drank 450 milliliters of water. How many milliliters of water did he drink in all? Show your work. Label your answer with the correct units.

2,450 milliliters

Work will vary.

- 39** What is the perimeter of the rectangle? Show your work. Label your answer with the correct units.



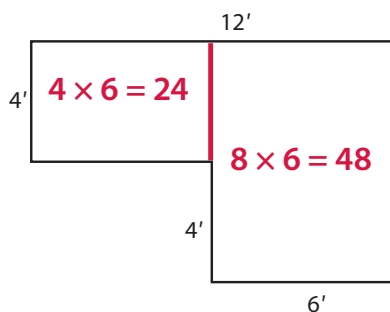
22 meters

Work will vary.

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40 Here is a sketch map of the Jacksons' kitchen. They are planning to put in new tiles that will cover the entire floor.

- a** What is the area of the Jackson's kitchen floor? Show your work. Label your answer with the correct units.



72 square feet.

Work will vary. Example shown.

$$4 \times 6 = 24$$

$$8 \times 6 = 48$$

$$24 + 48 = 72$$

- b** The tiles are each 1 square foot (1 foot by 1 foot), and they come in packages of 10. How many packages of tiles will the Jacksons need to buy? Show all your work.

8 packages. Work will vary. Example:

They need 72 tiles to cover the floor. The tiles come in packs of 10, so they have to get 8 packs. They can save the extras in case they break one.

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- 41** Mr. Alonzo's students kept track of how much they grew during fourth grade. The table below shows how much some of the students grew during fourth grade.

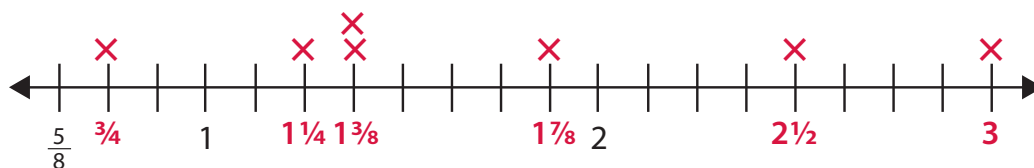
Student	Inches Grown
Alison	$1\frac{3}{8}$ in.
Darius	$2\frac{1}{2}$ in.
Akiko	$\frac{3}{4}$ in.
Miranda	$1\frac{7}{8}$ in.

Student	Inches Grown
Kyle	3 in.
Maria	$1\frac{1}{4}$ in.
Marco	$1\frac{3}{8}$ in.

- a** Make a line plot to show the data, using the line below. Label the rest of the marks along the line, and then enter the data points. Add a title above the line plot and a label below the line to explain what the numbers mean.

How Much We Grew

Titles will vary.



Inches Grown

Labels will vary.

- b** If you combine the number of inches Marco and Miranda grew, what is the total? Show your work.
 $3\frac{2}{8}$ or $3\frac{1}{4}$ inches
Work will vary.
- c** How much more did Kyle grow this year than Alison? Show your work.
 $1\frac{5}{8}$ inches
Work will vary.

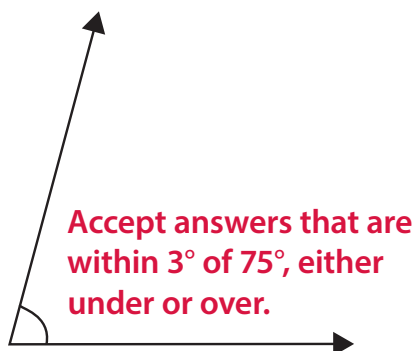
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- 42** A video camera is monitoring a store. Every second, it turns one degree. After 90 seconds, what is the measure of the angle formed by the turning of the video camera?

90 degrees

- 43** Use your protractor to solve both of these problems.

- a** Measure this angle.



The measure of this angle is 75 °

- b** Sketch an angle that measures 30°.

Accept answers that are within 3° of 30°, either under or over.

- 44** Luke made a 90 degree turn on his snowboard. Then, he turned 160 degrees more. As you answer the questions below, it may help to draw a sketch.

- a** Write and solve an equation to show how far Luke turned in all.

250°

Equations will vary. Example: $90 + 160 = 250^\circ$

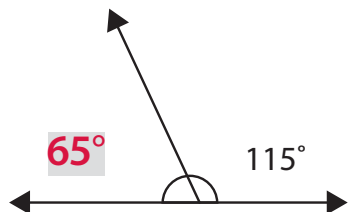
- b** Write and solve an equation that shows how much farther Luke needs to turn to make a complete circle.

110°

Equations will vary. Example: $360 - 250 = 110^\circ$

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- 45** Write and solve an equation to find the measure of the mystery angle below. Write the answer in the gray box.



$$180 - 115 = 65$$

Equations may vary slightly.

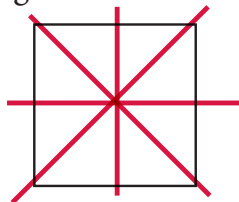
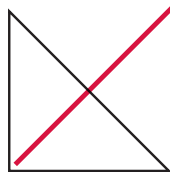
- 46** Draw an example to illustrate each word or phrase below. Use a ruler to help make your drawings neat and accurate.

Note You can use a geoboard and rubber bands to build any of these before you sketch them on the sheet.

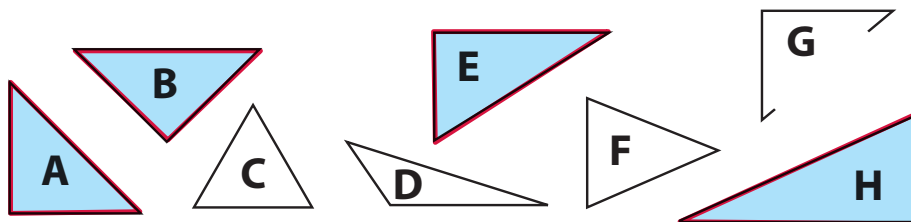
An acute angle	A right triangle	A polygon with one or more pairs of perpendicular sides
A right angle	A quadrilateral with exactly one pair of parallel sides and exactly one line of symmetry	An obtuse angle

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- 47** How many lines of symmetry does each of the figures below have? Write the number below the figure, and draw in the lines of symmetry (if there are any) on each figure.

**4****1****0**

- 48** Use this collection of figures to answer the questions below.



- a** Find all the right triangles and color them blue.
- b** Ari says figure G is not a right triangle. Do you agree? Why or why not?
Agree. Explanations will vary. Example:
Figure G is not a right triangle because it is not closed.
- c** Jane says that figure H is not a right triangle because the sides are all different lengths. Do you agree? Why or why not?
Disagree. Explanations will vary. Example:
Figure H is a right triangle because it has a right angle. It doesn't matter if the sides are different lengths or not.

- 49** Mark every statement about quadrilaterals that is true.

- ☒ All quadrilaterals have 4 sides.
- ☐ All quadrilaterals have exactly 2 pairs of parallel sides.
- ☒ Some quadrilaterals have at least 1 pair of perpendicular sides.
- ☐ There is no such thing as a quadrilateral with 1 or more obtuse angles.
- ☒ Some quadrilaterals have exactly 2 lines of symmetry.