This document provides a breakdown of work for your child to complete per week. Please check off the pages as they are completed.

5th Grade

Week 5:	
Pages 3-4	MAFS.5.OA.1.2
Pages 17-18	MAFS.5.NBT.2.5
Pages 1-2	MAFS.5.OA.1.1

Week 6:	
Pages 19-20	MAFS.5.NBT.2.6
Pages 7-8	MAFS.5.NBT.1.1

1 Which expressions represent multiplying the sum of 8 and 2 by 6?

Select the **two** correct answers.

(A) $8 + 2 \times 6$ (D) $6 \times (8 + 2)$

(B) $(8 + 2) \times 6$ (E) $6 \times 8 + 2$

(C) $8 + (2 \times 6)$

2 Which statement describes the expression $7 + \frac{2}{3}(9 - 6)$?

(A) two-thirds the difference of 6 from 9 added to 7

(B) subtract two-thirds the quantity of 9 and 6 from 7

(C) the sum of 7 and two-thirds the product of 9 and 6

(D) two-thirds of 9 added to 7 minus 6

3 What expression could represent the following phrase?

two times the sum of 3 and 7

_____

_____

4 Create an expression that is equivalent to 4 more than half the product of 20 and 38.

_____

5 Which phrase describes the expression $\frac{1}{2}(10 + 6) - 3$?

(A) 3 more than half the sum of 10 and 6

(B) 3 less than half the sum of 10 and 6

(C) half the product of 10 and 6 decreased by 3

(D) half the difference of 10 and 6 decreased by 3

6 Which expression could represent the following phrase?

multiply 4 by 12, then add 6

(A) $4 \times (12 + 6)$ (C) $12 + 6 \times 4$

(B) $(4 + 12) \times 6$ (D) $4 \times 12 + 6$

7 Write an expression that models the phrase "5 times the sum of 300 and 12."

_____

8 Which phrase describes the expression $10 - 3 \times (2 + 5)$?

(A) 5 more than the difference of 10 and 3 times 2

(B) the product of 10 minus 3 and the sum of 2 and 5

(C) 10 minus the product of 3 and the sum of 2 and 5

(D) 10 less than the product of 3 and the sum of 2 and 5

9 Write an expression that matches the phrase "7 more than the product of 2 and 15."

10 Which phrase describes the expression $2 \times (4 - 1) \div 3$?

Ⓐ 2 times the difference of 4 and 1, divided by 3

Ⓑ the difference of 2 times 4 and 1 divided by 3

Ⓒ the quotient of 2 times 4 minus 1 and 3

Ⓓ the product of 2 and 4 minus 1 divided by 3

11 Write the expression that matches the phrase.

the sum of 3 times 17 and 5

12 Which phrase describes the expression $\frac{1}{2} \times (16 + 34) - 4$?

Ⓐ half of 16 added to the difference of 34 and 4

Ⓑ half the sum of 16 and 34 subtracted from 4

Ⓒ 4 less than half the sum of 16 and 34

Ⓓ 4 less than half the difference of 16 and 34

13 Which expression represents the following phrase?

divide 20 by 5, then add half the sum of 8 and 4

Ⓐ $20 \div 5 + \frac{1}{2} \div (8 + 4)$

Ⓑ $20 \div 5 + \frac{1}{2} \times (8 + 4)$

Ⓒ $5 \div 20 + \frac{1}{2} \times (8 + 4)$

Ⓓ $5 \div 20 + \frac{1}{2} \div (8 + 4)$

14 Which expression is 5 times the sum of 4,215 and 1,172?

Ⓐ $5 \times (4,215 + 1,172)$

Ⓑ $5 \times (4,215 - 1,172)$

Ⓒ $5 + (4,215 + 1,172)$

Ⓓ $5 \times (4,215 \times 1,172)$

15 Create an expression that is equivalent to 3 more than 7 times the sum of 15 and 20.

16 Which phrases describe the expression $7 \times 8 - 3$?

Select the **two** correct answers.

Ⓐ 3 less than the product of 8 and 7

Ⓑ 7 times the quotient of 8 divided by 3

Ⓒ the product of 7 and 8 decreased by 3

Ⓓ the quotient of 7 and 8 decreased by 3

Ⓔ 7 times the difference of 8 minus 3

1 Jamie's dad travels 365 miles every week for business. How many miles does he travel in 4 weeks?

Ⓐ 1,240

Ⓑ 1,260

Ⓒ 1,440

Ⓓ 1,460

2 Liam saves $12 of his allowance each week. Show the total amounts Liam saves after 4, 8, and 12 weeks.

4 weeks: $_____

8 weeks: $_____

12 weeks: $_____

3 Marlene can type 157 words per minute. If she types at the same rate, how many words can she type in 25 minutes?

Ⓐ 3,725

Ⓑ 3,895

Ⓒ 3,925

Ⓓ 4,125

4 There are 7 school buses taking students on a field trip. There are 37 students on each bus. How many students are going on the field trip?

_____

5 The distance from Kinsey's house to her school is 1,325 feet. Kinsey walks to school each morning and gets a ride home each afternoon. How many feet does Kinsey walk to school in 5 days?

Ⓐ 5,625

Ⓑ 6,525

Ⓒ 6,605

Ⓓ 6,625

6 Adam cuts a ribbon into 46 equal pieces. Each piece is 23 centimeters (cm) long. How long was the ribbon before Adam cut it?

Ⓐ 948 cm

Ⓑ 958 cm

Ⓒ 1,048 cm

Ⓓ 1,058 cm

Name _____

7 Place an X in the table to show if each equation is true or false.

	True	False
684 × 4 = 2,736		
192 × 14 = 2,388		
5,385 × 3 = 16,145		
2,385 × 12 = 28,620		

8 A soccer ball weighs 435 grams. How much do 18 soccer balls of the same size weigh?

(A) 7,830 grams

(B) 8,230 grams

(C) 9,830 grams

(D) 10,230 grams

9 A water bottle holds 768 milliliters of liquid.

Fill in the blanks with the correct answers from the list to complete the sentence.

6 bottles of the same size hold

_____ milliliters of liquid. and

12 bottles of the same size hold

_____ milliliters of liquid.

4,208	4,568	4,608
9,206	9,216	9,316

10 Which equation below is correct?

(A) 289 × 42 = 12,128

(B) 364 × 28 = 10,162

(C) 1,746 × 34 = 59,364

(D) 2,541 × 16 = 40,456

1 What is the value of the expression $(4 + 5) \times (4 + 1)$?

(A) 14

(B) 24

(C) 25

(D) 45

2 Which of the following expressions have the same value?

Select all the correct answers.

(A) $5 + 3 \times 6 - 4 \div 2$

(B) $(5 + 3) \times 6 - 4 \div 2$

(C) $5 + (3 \times 6) - 4 \div 2$

(D) $5 + 3 \times (6 - 4) \div 2$

(E) $5 + 3 \times 6 - (4 \div 2)$

3 What is the first step in evaluating the expression shown?

$3 \times [(6 \times 25) + 7] - 1$

(A) 3×6

(B) 6×25

(C) $25 + 7$

(D) $7 - 1$

4 Evaluate the expression $(57 + 4) \times 4 - 16$.

5 The expression $63 - [(8 + 7) \div 3] + 1$ is evaluated incorrectly as shown.

Step 1: $63 - [15 \div 3] + 1$

Step 2: $48 \div 3 + 1$

Step 3: $16 + 1$

Step 4: 17

In which step does a mistake first appear?

(A) Step 1

(B) Step 2

(C) Step 3

(D) Step 4

6 What is the value of the expression $5 + [(42 + 7) \times 3] - 2$?

(A) 54

(B) 66

(C) 150

(D) 160

7 Place an X in the table to show if each equation is true or false.

	True	False
$42 - (9 + 6) = 27$		
$18 \div [(22 - 4) \div 6] = 6$		
$28 \div [(8 + 6) \div 7] = 14$		
$[15 + (23 - 8)] \div 3 = 10$		

8 Which equation below is correct?

Ⓐ $13 + 4 \times 2 + 2 = 36$

Ⓑ $(13 + 4) \times 2 + 2 = 36$

Ⓒ $13 + 4 \times (2 + 2) = 36$

Ⓓ $(13 + 4) \times (2 + 2) = 36$

9 Fill in the blanks with the correct numbers from the list to simplify each expression.

$55 - (12 + 2) =$ _____

$25 + (14 - 4) \div 5 =$ _____

7	39
27	41
37	43

10 Which equation below is incorrect?

Ⓐ $(12 + 4) \times \frac{1}{2} = 14$

Ⓑ $(5 + 11) \times \frac{1}{2} = 8$

Ⓒ $(6 \times 2) + \frac{1}{2} = \frac{25}{2}$

Ⓓ $(5 \times 3) + \frac{1}{2} = \frac{31}{2}$

1 A pizza parlor uses 42 tomatoes for each batch of tomato sauce. About how many batches of sauce can the pizza parlor make from its last shipment of 1,236 tomatoes?

Ⓐ 20

Ⓑ 30

Ⓒ 35

Ⓓ 48

2 What is 2,875 ÷ 23?

_____

3 An art teacher has a list of 134 students who have signed up for art classes. The art teacher can register 8 students in each class. What is the LEAST number of classes needed for all the students to be registered in a class?

Ⓐ 16

Ⓑ 17

Ⓒ 18

Ⓓ 19

4 Select all the expressions that have a value of 26.

Select the **three** correct answers.

Ⓐ 390 ÷ 15

Ⓑ 325 ÷ 13

Ⓒ 520 ÷ 20

Ⓓ 744 ÷ 31

Ⓔ 494 ÷ 19

5 A restaurant uses 32 potatoes for each batch of potato soup it makes. About how many batches of potato soup can the restaurant make from its last shipment of 1,275 potatoes?

Ⓐ 30

Ⓑ 40

Ⓒ 45

Ⓓ 50

6 A music teacher has a list of 128 students who have signed up for music classes. The music teacher can register 6 students in each class. What is the LEAST number of classes needed for all the students to be registered in a class?

Ⓐ 20

Ⓑ 21

Ⓒ 22

Ⓓ 24

Name _____

7 Mary is packing cans into boxes that fit 15 cans each. If she has 405 cans, what expression should she use to figure out how many boxes she will need? Use your equation to calculate how many boxes she will need.

Fill in the blanks with the correct expression and number from the list to complete the sentences.

The expression Mary will use to find the number of boxes she will need is _____.

The number of boxes she will need is _____.

400×15	$400 \div 15$	$400 + 15$
27	465	4,860

8 What is $1,104 \div 24$?

_____

9 The Ceramic Tile Company uses 32 tiles for each countertop it makes. About how many countertops can it make from its last shipment of 1,486 tiles?

Ⓐ 65

Ⓑ 60

Ⓒ 50

Ⓓ 40

10 A swimming instructor has a list of 152 students who have signed up for swimming lessons. The swimming instructor can register 12 students in each class. What is the LEAST number of classes needed for all the students to be registered in a class?

Ⓐ 12

Ⓑ 13

Ⓒ 14

Ⓓ 15

1 What is the missing value in the equation shown?

$5.7 \times \boxed{} = 0.57$

Ⓐ $\frac{1}{100}$

Ⓑ $\frac{1}{10}$

Ⓒ 10

Ⓓ 100

2 What number is 10 times as much as 0.076?

Ⓐ 0.0076

Ⓑ 0.076

Ⓒ 0.76

Ⓓ 7.6

3 Which of the following equations are true?

Select all the true statements.

Ⓐ $0.25 \times \frac{1}{10} = 0.025$

Ⓑ $45.1 \times 10 = 4.51$

Ⓒ $0.67 \times \frac{1}{10} = 6.7$

Ⓓ $37.2 \times 10 = 372$

Ⓔ $0.56 \times 100 = 56$

4 What is the missing value in the equation shown?

$\boxed{} \times 100 = 82$

Ⓐ 0.82　　　Ⓒ 82

Ⓑ 8.2　　　Ⓓ 820

5 Last year 2,550 wildflowers grew in a field. That was $\frac{1}{10}$ the number of wildflowers in the field this year. How many wildflowers are in the field this year?

_____ wildflowers

6 How many times the value of 17 is 1.7?

Ⓐ $\frac{1}{100}$

Ⓑ $\frac{1}{10}$

Ⓒ 10

Ⓓ 100

7 Fill in the blanks with the correct answers from the list to complete the sentence.

0.92 is 10 times as much as _____ and $\frac{1}{10}$ of _____.

| 0.0092 |
| 0.092 |
| 0.92 |
| 9.2 |

Name _____

8 Which statements are true?

Select all the true statements.

Ⓐ 50 is $\frac{1}{10}$ of 500.

Ⓑ 290 is 10 times as much as 2,900.

Ⓒ 6,500 is 10 times as much as 65.

Ⓓ 700 is 10 times as much as 70.

Ⓔ 300 is $\frac{1}{10}$ of 30.

9 Find the values of the missing numbers in the equations.
Fill in the blanks with the correct numbers from the list.

$0.027 \times$ _____ $= 2.7$

$53 \times$ _____ $= 5.3$

| $\frac{1}{100}$ | $\frac{1}{10}$ | 10 | 100 |

10 Erica earned 30,000 bonus points on her computer assignment. This is 10 times as many bonus points as she earned last week.

How many bonus points did Erica earn last week?

_____ points

Reteach Lessons for Chapter 2 & Chapter 9

(These will help with the assignments in Week 5 & 6.)

Name _____

Place the First Digit

When you divide, you can use estimation or place value
to place the first digit of the quotient.

Divide.

$6\overline{)1,266}$

- Estimate. $1,200 \div 6 = 200$, so the first digit of the quotient is
  in the hundreds place.
- Divide the hundreds.
- Divide the tens.
- Divide the ones.

So, $1,266 \div 6 = 211$.

$$
\begin{array}{r}
211 \\
6\overline{)1,266} \\
\underline{-12} \downarrow \\
06 \\
\underline{-6} \downarrow \\
06 \\
\underline{-6} \\
0
\end{array}
$$

Since 211 is close to the estimate, 200, the answer is reasonable.

Divide.

$8,895 \div 8$

- Use place value to place the first digit.
- Look at the first digit.
    If the first digit is less than the divisor, then the first digit of
    the quotient will be in the hundreds place.
    If the first digit is greater than or equal to the divisor, then
    the first digit of the quotient will be in the thousands place.
- Since 8 thousands can be shared among 8 groups, the first digit
  of the quotient will be in the thousands place. Now divide.

So, $8,895 \div 8$ is 1,111 r7.

$$
\begin{array}{r}
1,111\,r7 \\
8\overline{)8,895} \\
\underline{-8} \downarrow \\
08 \\
\underline{-8} \downarrow \\
09 \\
\underline{-8} \downarrow \\
15 \\
\underline{-8} \\
7
\end{array}
$$

Divide.

1. $3\overline{)627}$

2. $5\overline{)7,433}$

3. $4\overline{)5,367}$

4. $9\overline{)6,470}$

5. $8\overline{)2,869}$

6. $6\overline{)1,299}$

7. $4\overline{)893}$

8. $7\overline{)4,418}$

Divide by 1-Digit Divisors

You can use compatible numbers to help you place the first digit
in the quotient. Then you can divide and check your answer.

Divide. 4)757

Step 1 Estimate with compatible numbers to decide where to place the first digit.

$757 \div 4$

$\downarrow$

$800 \div 4 = 200$

The first digit of the quotient is in the hundreds place.

Step 2 Divide.

$$
\begin{array}{r}
189 \text{ r1} \\
4)\overline{757} \\
-4 \downarrow \\
\hline
35 \\
-32 \downarrow \\
\hline
37 \\
-36 \\
\hline
1
\end{array}
$$

Step 3 Check your answer.

189 ← quotient
$\underline{\times4}$ ← divisor
756
$\underline{+1}$ ← remainder
757 ← dividend

Since 189 is close to the estimate of 200, the answer is reasonable.

So, $757 \div 4$ is 189 r1.

Divide. Check your answer.

1. 8)136

2. 7)297

3. 5)8,126

4. 7)4,973

5. 3)741

6. 7)456

Name _____

Division with 2-Digit Divisors

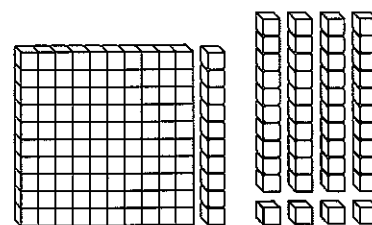You can use base-ten blocks to model division with 2-digit divisors.

Divide. 154 ÷ 11

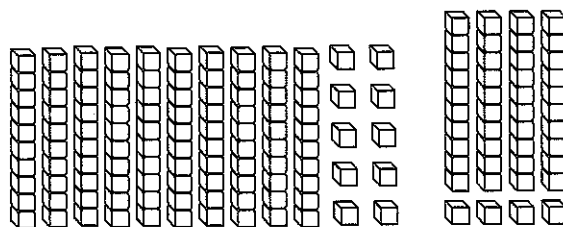**Step 1** Model 154 with base-ten blocks.
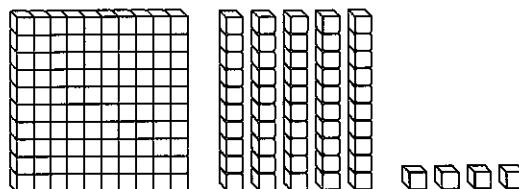
Step 2 Make equal groups of 11. Each group should contain __1__ ten and __1__ one.
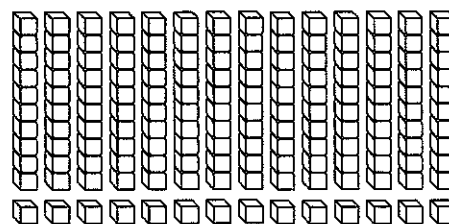
You can make 4 groups of 11 without regrouping.

Step 3 Regroup 1 hundred as **10 tens**.

Regroup 1 ten as **10 ones**.

Step 4 Use the regrouped blocks to make as many groups of 11 as possible. Then count the total number of groups.

There are __14__ groups. So, 154 ÷ 11 = __14__.

Divide. Use base-ten blocks.

1. 192 ÷ 12 _____

2. 182 ÷ 14 _____

Partial Quotients

Divide. Use partial quotients.

858 ÷ 57

Quotient

Step 1 Estimate the number of groups of
57 that are in 858. You know 57 × 10 = 570.
Since 570 < 858, at least 10 groups of 57
are in 858. Write 10 in the quotient column,
because 10 groups of the divisor, 57, are in
the dividend, 858.

$$\begin{array}{r} 858 \\ -570 \\ \hline 288 \end{array} \quad 10$$

Step 2 Now estimate the number of groups
of 57 that are in 288. You know 60 × 4 = 240.
So at least 4 groups of 57 are in 288. Subtract
228 from 288, because 57 × 4 = 228. Write
4 in the quotient column, because 4 groups of
the divisor, 57, are in 288.

$$\begin{array}{r} 288 \\ -228 \\ \hline 60 \end{array} \quad 4$$

Step 3 Identify the number of groups of
57 that are in 60. 57 × 1 = 57, so there is
1 group of 57 in 60. Write 1 in the quotient
column.

$$\begin{array}{r} 60 \\ -57 \\ \hline \text{remainder} \rightarrow \quad 3 \end{array} \quad \begin{array}{r} +1 \\ \hline 15 \end{array}$$

Step 4 Find the total number of groups of the
divisor, 57, that are in the dividend, 858, by
adding the numbers in the quotient column.
Include the remainder in your answer.

Answer: 15 r3

Divide. Use partial quotients.

1. $17\overline{)476}$

2. $14\overline{)365}$

3. $25\overline{)753}$

4. 462 ÷ 11

5. 1,913 ÷ 47

6. 1,085 ÷ 32

Estimate with 2-Digit Divisors

You can use *compatible numbers* to estimate quotients. Compatible numbers are numbers that are easy to compute with mentally.

To find two estimates with compatible numbers, first round the divisor. Then list multiples of the rounded divisor until you find the two multiples that are closest to the dividend. Use the one less than and the one greater than the dividend.

Use compatible numbers to find two estimates. 4,125 ÷ 49

Step 1 Round the divisor to the nearest ten.
49 rounds to __50__.

Step 2 List multiples of 50 until you get the two closest to the dividend, 4,125.
Some multiples of 50 are:
500   1,000   1,500   2,000   2,500   3,000   3,500   4,000   4,500
__4,000__ and __4,500__ are closest to the dividend.

Step 3 Divide the compatible numbers to estimate the quotient.
4,000 ÷ 50 = __80__   4,500 ÷ 50 = __90__

The more reasonable estimate is 4,000 ÷ 50 = 80,
because __4,000__ is closer to 4,125 than 4,500 is.

Use compatible numbers to find two estimates.

1. 42)1,578

2. 73)4,858

3. 54)343

4. 4,093 ÷ 63

5. 4,785 ÷ 79

6. 7,459 ÷ 94

Use compatible numbers to estimate the quotient.

7. 847 ÷ 37

8. 6,577 ÷ 89

9. 218 ÷ 29

Divide by 2-Digit Divisors

When you divide by a 2-digit divisor, you can use estimation to help you place the first digit in the quotient. Then you can divide.

Divide. $53\overline{)2,369}$

Step 1 Use compatible numbers to estimate the quotient. Then use the estimate to place the first digit in the quotient.

$$\begin{array}{r} 40 \\ 50\overline{)2,000} \end{array}$$

The first digit will be in the tens place.

Step 2 Divide the tens.

$$\begin{array}{r} 4 \\ 53\overline{)2,369} \\ -212 \\ \hline 24 \end{array}$$

Think:

Divide: 236 tens ÷ 53

Multiply: 53 × 4 tens = 212 tens

Subtract: 236 tens − 212 tens

Compare: 24 < 53, so the first digit of the quotient is reasonable.

Step 3 Bring down the 9 ones. Then divide the ones.

$$\begin{array}{r} 44 \text{ r}37 \\ 53\overline{)2,369} \\ -212\downarrow \\ \hline 249 \\ -212 \\ \hline 37 \end{array}$$

So, 2,369 ÷ 53 is 44 r37.

Think:

Divide: 249 ones ÷ 53

Multiply: 53 × 4 ones = 212 ones

Subtract: 249 ones − 212 ones

Compare: 37 < 53, so the second digit of the quotient is reasonable.

Write the remainder to the right of the whole number part of the quotient.

Divide. Check your answer.

1. $52\overline{)612}$

2. $63\overline{)917}$

3. $89\overline{)1,597}$

4. $43\overline{)641}$

5. $27\overline{)4,684}$

6. $64\overline{)8,455}$

Interpret the Remainder

Erin has 87 ounces of trail mix. She puts an equal number of ounces in each of 12 bags. How many ounces does she put in each bag?

$$\begin{array}{r} 7\ r3 \\ 12\overline{)87} \\ -84 \\ \hline 3 \end{array}$$

First, divide to find the quotient and remainder. Then, decide how to use the quotient and the remainder to answer the question.

- The dividend, __87__, represents the total number of ounces of trail mix.
- The divisor, __12__, represents the total number of bags.
- The quotient, __7__, represents the whole-number part of the number of ounces in each bag.
- The remainder, __3__, represents the number of ounces left over.

Divide the 3 ounces in the remainder by the divisor, 12, to write the

remainder as a fraction: __$\frac{3}{12}$__

Write the fraction part in simplest form in your answer.

So, Erin puts __$7\frac{1}{4}$__ ounces of trail mix in each bag.

Interpret the remainder to solve.

1. Harry goes on a canoe trip with his scout troop. They will canoe a total of 75 miles and want to travel 8 miles each day. How many days will they need to travel the entire distance?

2. Hannah and her family want to hike 8 miles per day along a 125-mile-long trail. How many days will Hannah and her family hike exactly 8 miles?

3. There are 103 students eating lunch in the cafeteria. Each table seats 4 students. All the tables are full, except for one table. How many students are sitting at the table that is not full?

4. Emily buys 240 square feet of carpet. She can convert square feet to square yards by dividing the number of square feet by 9. How many square yards of carpet did Emily buy? (Hint: Write the remainder as a fraction.)

Name _____

Adjust Quotients

When you divide, you can use the first digit of your estimate as the first digit of your quotient. Sometimes the first digit will be too high or too low. Then you have to adjust the quotient by increasing or decreasing the first digit.

Estimate Too High		Estimate Too Low	
Divide. 271 ÷ 48		**Divide.** 2,462 ÷ 27	
Estimate. 300 ÷ 50 = 6		**Estimate.** 2,400 ÷ 30 = 80	
Try 6 ones. $$\begin{array}{r} 6 \\ 48\overline{)271} \\ -\ 288 \\ \hline \end{array}$$ You cannot subtract 288 from 271. So, the estimate is too high.	Try 5 ones. $$\begin{array}{r} 5\ r31 \\ 48\overline{)271} \\ -\ 240 \\ \hline 31 \end{array}$$ So, 271 ÷ 48 is 5 r31.	Try 8 tens. $$\begin{array}{r} 8 \\ 27\overline{)2{,}462} \\ -\ 216 \\ \hline 30 \end{array}$$ 30 is greater than the divisor. So, the estimate is too low.	Try 9 tens. $$\begin{array}{r} 91\ r5 \\ 27\overline{)2{,}462} \\ -\ 243 \\ \hline 32 \\ -\ 27 \\ \hline 5 \end{array}$$ So, 2,462 ÷ 27 is 91 r5.

Adjust the estimated digit in the quotient, if needed. Then divide.

1. $$\begin{array}{r} 2 \\ 58\overline{)1{,}325} \end{array}$$

2. $$\begin{array}{r} 6 \\ 37\overline{)241} \end{array}$$

3. $$\begin{array}{r} 8 \\ 29\overline{)2{,}276} \end{array}$$

Divide.

4. $16\overline{)845}$

5. $24\overline{)217}$

6. $37\overline{)4{,}819}$

Name _____

Problem Solving • Division

Sara and Sam picked apples over the weekend. Sam picked nine
times as many apples as Sara. Together, they picked 310 apples.
How many apples did each person pick?

Read the Problem		
What do I need to find? I need to find **the** **number of** **apples each** **person picked.**	**What information do I need to use?** I need to know that Sam and Sara picked a total of **310** apples. I need to know that Sam picked **9** times as many apples as Sara.	**How will I use the information?** I can use the strategy **draw** **a diagram** to organize the information. I can draw and use a bar model to write the division problem that will help me find the number of apples Sam and Sara each picked.

Solve the Problem
My bar model needs to have one box for the number of apples Sara picked and nine boxes for the number of apples Sam picked. I can divide the total number of apples picked by the total number of boxes.

Sara **31**

Sam **31 31 31 31 31 31 31 31 31**   310

$$\begin{array}{r} 3\,1 \\ 10\overline{)310} \\ -30 \\ \hline 1\,0 \\ -1\,0 \\ \hline 0 \end{array}$$

So, Sara picked **31** apples and Sam picked **279** apples. |

Solve each problem. To help, draw a bar model on a separate sheet of paper.

1. Kai picked 11 times as many blueberries as Nico. Together, they picked 936 blueberries. How many blueberries did each boy pick?

2. Jen wrote 10 times as many pages of a school report as Tom. They wrote 396 pages altogether. How many pages did each student write?

_____   _____

Name _____

Line Plots

A **line plot** is a graph that shows the shape of a data set by placing *X*s above each data value on a number line. You can make a line plot to represent a data set and then use the line plot to answer questions about the data set.

Students measure the lengths of several seeds.
The length of each seed is listed below.

$\frac{1}{2}$ inch, $\frac{3}{4}$ inch, $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, $\frac{3}{4}$ inch, $\frac{3}{4}$ inch, $\frac{3}{4}$ inch, $\frac{1}{4}$ inch, $\frac{1}{2}$ inch

What is the combined length of the seeds that are $\frac{1}{4}$ inch long?

Step 1 To represent the different lengths of the seeds, draw and label a line plot with the data values $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$. Then use an *X* to represent each seed. The line plot has been started for you.

Length of Seeds (in inches)
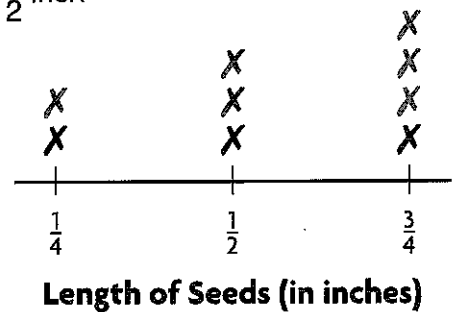
Step 2 There are ___2___ *X*s above $\frac{1}{4}$ on the line plot.

Multiply to find the combined length of the seeds:

___2___ × ___$\frac{1}{4}$___ = ___$\frac{2}{4}$, or $\frac{1}{2}$___ inch

The combined length of the seeds that are $\frac{1}{4}$ inch long is $\frac{1}{2}$ inch.

You can use the same process to find the combined lengths of the seeds that are $\frac{1}{2}$ inch long and $\frac{3}{4}$ inch long.

Use the data and the line plot above to answer the questions.

1. What is the total length of all the seeds that the students measured?

2. What is the average length of one of the seeds that the students measured?

Ordered Pairs

A coordinate grid is like a sheet of graph paper bordered at the left and at the bottom by two perpendicular number lines. The **x-axis** is the horizontal number line at the bottom of the grid. The **y-axis** is the vertical number line on the left side of the grid.

An ordered pair is a pair of numbers that describes the location of a point on the grid. An ordered pair contains two coordinates, x and y. The **x-coordinate** is the first number in the ordered pair, and the **y-coordinate** is the second number.

(x, y) ⟶ (10, 4)

Plot and label (10, 4) on the coordinate grid.

To graph an ordered pair:

• Start at the origin, (0, 0).

• Think: The letter x comes before y in the alphabet. Move across the x-axis first.

• The x-coordinate is 10, so move 10 units right.

• The y-coordinate is 4, so move 4 units up.

• Plot and label the ordered pair (10, 4).
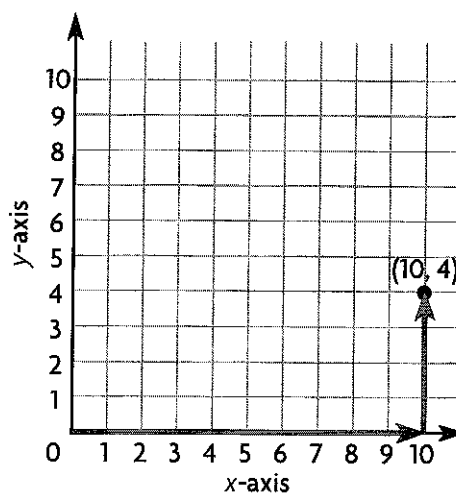
Use the coordinate grid to write an ordered pair for the given point.
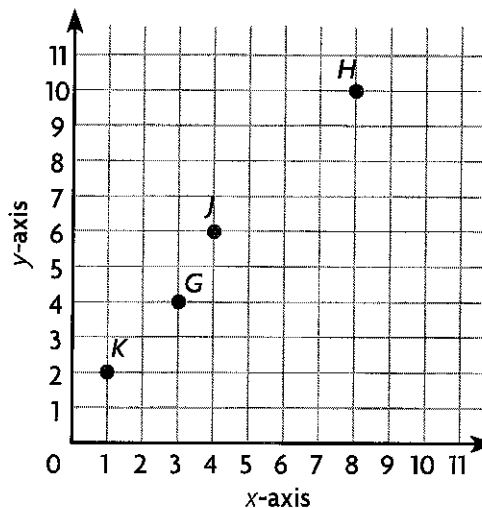
1. G _____ 2. H _____

3. J _____ 4. K _____

Plot and label the points on the coordinate grid.

5. A (1, 6) 6. B (1, 9)
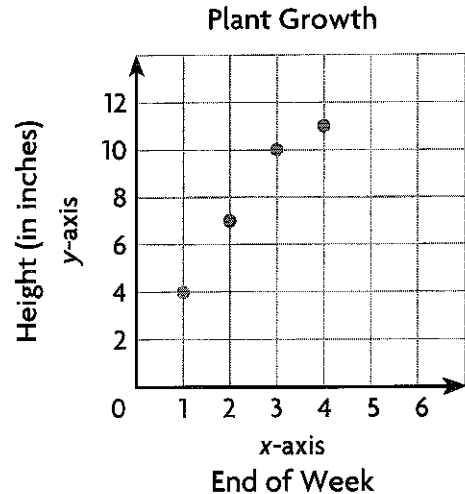
7. C (3, 7) 8. D (5, 5)

9. E (9, 3) 10. F (6, 2)

Graph Data

Graph the data on the coordinate grid.

Plant Growth				
End of Week	1	2	3	4
Height (in inches)	4	7	10	11

- Choose a title for your graph and label it. You can use the data categories to name the x- and y-axis.

- Write the related pairs of data as ordered pairs.

(<u>1</u> , <u>4</u>), (<u>2</u> , <u>7</u>)

(<u>3</u> , <u>10</u>), (<u>4</u> , <u>11</u>)
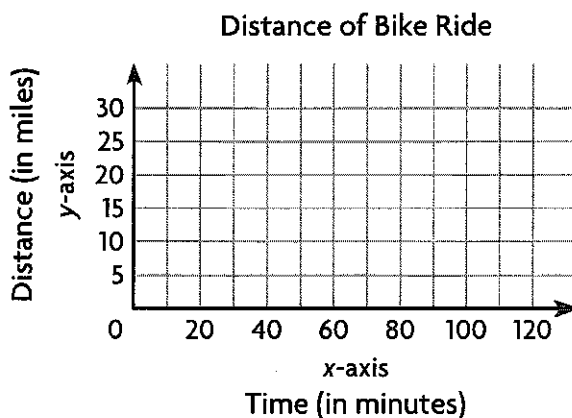
- Plot the point for each ordered pair.

Plant Growth

Graph the data on the coordinate grid. Label the points.

1.

Distance of Bike Ride				
Time (in minutes)	30	60	90	120
Distance (in miles)	9	16	21	27

Write the ordered pair for each point.

(_____ , _____), (_____ , _____)

(_____ , _____), (_____ , _____)

2.

Bianca's Writing Progress				
Time (in minutes)	15	30	45	60
Total Pages	1	3	9	11

Write the ordered pair for each point.

(_____ , _____), (_____ , _____)

(_____ , _____), (_____ , _____)

Distance of Bike Ride

Bianca's Writing Progress
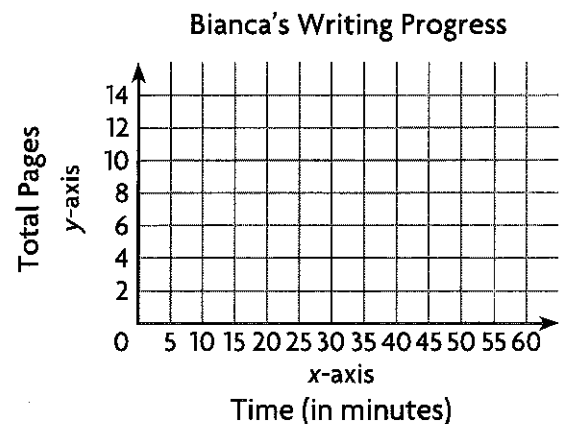
Line Graphs

A **line graph** uses a series of line segments to show how a set of data changes over time. The **scale** of a line graph measures and labels the data along the axes. An **interval** is the distance between the numbers on an axis.
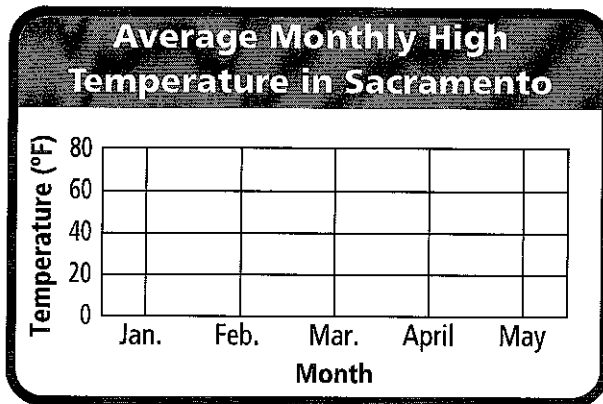
Use the table to make a line graph.

- Write a title for your graph. In this example, use **Average Monthly High Temperature in Sacramento**.

Average Monthly High Temperature in Sacramento, California

Month	Jan.	Feb.	Mar.	April	May
Temperature (°F)	53	60	65	71	80

- Draw and label the axes of the line graph. Label the horizontal axis **Month**. Write the months. Label the vertical axis **Temperature (°F)**.

- Choose a scale and an interval. The range is 53–80, so a possible scale is 0–80, with intervals of 20.

- Write the related pairs of data as ordered pairs:
  (Jan, 53); (Feb, 60); (Mar, 65); (April, 71); (May, 80).

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1. Make a line graph of the data above.

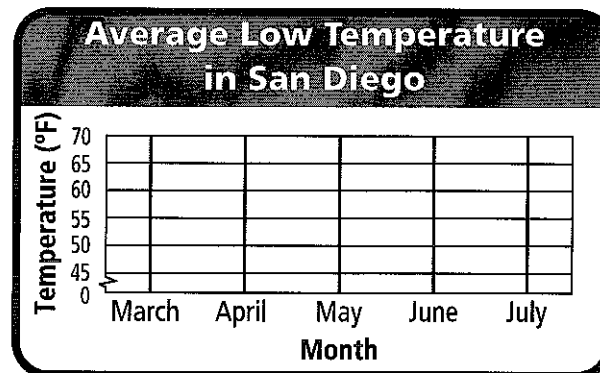**Average Monthly High Temperature in Sacramento**

Use the graph to determine between which two months the least change in average high temperature occurs.

_____

_____

2. Make a line graph of the data in the table.

Average Low Temperature in San Diego, California

Month	Mar.	April	May	June	July
Temperature (°F)	51	51	60	62	66

Average Low Temperature in San Diego

Use the graph to determine between which two months the greatest change in average low temperature occurs.

_____

Numerical Patterns

A soccer league has 7 teams. How many players are needed for
7 teams? How many soccer balls are needed by the 7 teams?

Number of Teams	1	2	3	4	7
Number of Players	8	16	24	32	56
Number of Soccer Balls	4	8	12	16	28

Add __8__.
Add __4__.

Step 1 Find a rule that could be used to find the number of players
for the number of teams.

Think: In the sequence 8, 16, 24, 32, you add 8 to get the next term.

As the number of teams increases by 1, the number of players
increases by 8. So the rule is to add 8.

Step 2 Find a rule that could be used to find the number of soccer
balls for the number of teams.

Think: In the sequence 4, 8, 12, 16, you add 4 to get the next term.

As the number of teams increases by 1, the number of soccer balls
needed increases by 4. So the rule is to add 4.

Step 3 For 7 teams, multiply the number of players by $\frac{1}{2}$ to find the
number of soccer balls.

So, for 7 teams, 56 players will need __28__ soccer balls.

**Complete the rule that describes how one sequence is related to the
other. Use the rule to find the unknown term.**

Number of Teams	1	2	3	4	8	10
Number of Players	15	30	45	60	120	
Number of Bats	5	10	15	20		50

1. Divide the number of players by _____ to find the number of bats.

2. Multiply the number of bats by _____ to find the number of players.

Problem Solving • Find a Rule

Samantha is making a scarf with fringe around it. Each section of fringe
is made of 4 pieces of yarn with 2 beads holding them together. There are
42 sections of fringe on Samantha's scarf. How many wooden beads and
how many pieces of yarn are on Samantha's scarf?

Read the Problem	Solve the Problem
What do I need to find? Possible answer: I need to find the number of beads and the number of pieces of yarn on Samantha's scarf.	(table below)

Sections of Fringe	1	2	3	4	6	42
Number of Beads	2	4	6	8	12	84
Pieces of Yarn	4	8	12	16	24	168

What information do I need to use?
Possible answer: I need to use the number of sections on the scarf, and that each section has 4 pieces of yarn and 2 beads.

How will I use the information?
I will use the information to search for patterns to solve a simpler problem.

Possible answer: I can multiply the number of sections by 2 to find the number of beads. Then, I can multiply the number of sections by 4, or the number of beads by 2, to find the number of pieces of yarn. So, Samantha's scarf has 2 × 42, or 84 beads, and 4 × 42, or 168 pieces of yarn.

1. A rectangular tile has a decorative pattern of 3 equal-sized squares, each of which is divided into 2 same-sized triangles. If Marnie uses 36 of these tiles on the wall behind her kitchen stove, how many triangles are displayed?

2. Leta is making strawberry-almond salad for a party. For every head of lettuce that she uses, she adds 5 ounces of almonds and 10 strawberries. If she uses 75 ounces of almonds, how many heads of lettuce and how many strawberries does Leta use?

Graph and Analyze Relationships

The scale on a map is 1 in. = 4 mi. Two cities are 5 inches apart on the map. What is the actual distance between the two cities?

Step 1 Make a table that relates the map distances to the actual distances.

Map Distance (in.)	1	2	3	4	5
Actual Distance (mi)	4	8	12	16	__?__

Step 2 Write the number pairs in the table as ordered pairs.

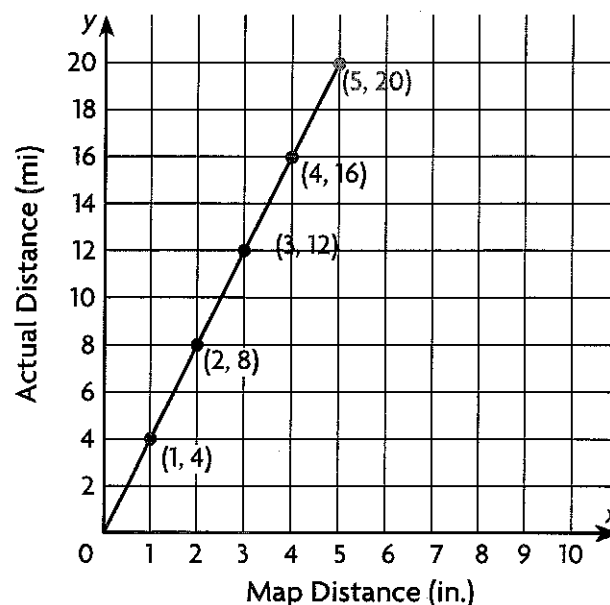(1, 4), (2, 8), (3, 12), (4, 16), (5, ?)

Step 3 Graph the ordered pairs. Connect the points with a line from the origin.

Possible rule: Multiply the map distance by <u>4</u> to get the actual distance.

Step 4 Use the rule to find the actual distance between the two cities.

So, two cities that are 5 inches apart on the map are actually 5 × 4, or <u>20</u> miles apart.

Plot the point (5, 20) on the graph.

Graph and label the related number pairs as ordered pairs. Then complete and use the rule to find the unknown term.

1. Multiply the number of yards by _____ to find the number of feet.

Number of Yards	1	2	3	4	5
Number of Feet	3	6	9	12	