

6TH GRADE MATH

Unit 1

Multi-Digit Computation and
Finding Common Factors
and Multiples

Date:

Extra! Extra! Read all about it!

Are you wondering how you can get some extra credit? If so, here is how. We are going to start Unit 1 (Multi-Digit Computation and Finding Common Factors and Multiples). Here is a list of IXL topics, for every topic you complete you will earn some extra credit. Here are the possible points you can earn on each topic. The extra credit will be due by _____.

Smart Score on IXL

- 100% - 5 extra points
- 95% - 4 extra points
- 90% - 3 extra points
- 85% - 2 extra points
- 80% - 1 extra point

Unit 1 Topics – You can earn up to 95 extra credit points. You got this 😊

6.NS.B.2 Fluently divide multi-digit numbers using a standard algorithm.

- 1) Division patterns with zeroes (6-C.2)
- 2) Divide numbers ending in zeroes: word problems (6-C.3)
- 3) Divide whole numbers - 2-digit divisors (6-C.5)
- 4) Divide whole numbers - 3-digit divisors (6-C.6)

You will use these skills ALL YEAR! → 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.

- 5) Add and subtract decimal numbers (6-G.1)
- 6) Add and subtract decimals: word problems (6-G.2)
- 7) Maps with decimal distances (6-G.4)
- 8) Multiply decimals (6-H.2)
- 9) Divide decimals by whole numbers (6-H.4)
- 10) Divide decimals by whole numbers: word problems (6-H.5)
- 11) Multiply and divide decimals by powers of ten (6-H.6)
- 12) Division with decimal quotients (6-H.7)
- 13) Add, subtract, multiply, or divide two decimals (6-O.4)
- 14) Add, subtract, multiply, or divide two decimals: word problems (6-O.5)

6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

- 15) Identify factors (6-E.4)
- 16) Greatest common factor (6-E.7)
- 17) Least common multiple (6-E.9)
- 18) Find all the factor pairs of a number (6-E.)
- 19) GCF and LCM: word problems (6-E.11)

Adding & Subtracting Decimals

Name: _____

Date: _____

Daily Target: I can add and subtract decimals to the thousandths place.**Addition & Subtraction**

Step One: _____ decimals vertically.	Addition $32.60 + 4.8$
Step Two: _____ a zero to the _____ (after the decimal) if necessary.	
Step Three: Beginning with the _____ place value, _____ or _____ from right to left.	Subtraction $96.5 - 15.23$
Step Four: _____ the decimal.	

Practice!

1) $3.24 + 4.9$

3) $640.1 - 3.289$

2) $5.231 - 2.6$

4) $459 - 86.92$

5) During June, Clarksville received 3.562 inches of rain and in July it received 4.73 inches. What is the difference between the two months?

Name: _____

Find each sum or difference.

$8.9 + 2.4$	$12.7 - 9.6$																				
$18.35 - 4.16$	$7.21 + 11.6$																				
$0.975 + 3.8$	$20.66 - 9.1$																				
<p>Tiffany's job requires a lot of driving. How many miles did she travel during the month of February?</p> <p style="text-align: center;">Miles Tiffany Traveled</p> <table border="1" data-bbox="170 1081 803 1165"> <thead> <tr> <th>Week</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Miles</td> <td>210.05</td> <td>195.18</td> <td>150.25</td> <td>165.30</td> </tr> </tbody> </table>	Week	1	2	3	4	Miles	210.05	195.18	150.25	165.30	<p>Shelly babysits after school and on the weekends. How much did she earn in all for the month of April?</p> <p style="text-align: center;">Shelly's Earnings for April</p> <table border="1" data-bbox="828 1081 1567 1165"> <thead> <tr> <th>Week</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Earnings</td> <td>\$120.50</td> <td>\$180.75</td> <td>\$205.25</td> <td>\$215.50</td> </tr> </tbody> </table>	Week	1	2	3	4	Earnings	\$120.50	\$180.75	\$205.25	\$215.50
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<p>Allen bought a box of envelopes for \$2.79 and a pack of paper for \$4.50. He paid with a \$10 bill. How much change should he receive?</p>	<p>From a bolt of cloth measuring 25.60 yards, Tina cut a 6.8 yard piece and an 11.9 yard piece. How much material is left on the bolt?</p>																				

Name (s) _____

Class _____

Date _____

Error Analysis – MULTI-DIGIT DECIMAL OPERATIONS

Read the word problem. Look at the students work and solution. Identify the error and describe it. Solve the problem correctly. Then share a strategy this student could use to prevent the same error in the future.

Sade is creating a video. The first video clip was 21.25 minutes long. The second video clip was 15.4 minutes long. What is the total length of the video?

Incorrect Work/Solution	Identify and Explain the Error
$\begin{array}{r} 21.25 \\ + 15.4 \\ \hline 227.9 \end{array}$	
The total length of the video is 227.9 minutes long.	
Correct Work/ Solution	Share a Strategy

Multiplying Decimals

Name: _____

Date: _____

Daily Target: I can multiply two decimals to the thousandths place.

Step One:

_____ the last digit of each number vertically.

Step Two:

Use the standard _____ to _____ the numbers.

Step Three:

_____ to find the _____ number of digits after the decimal in each factor.

Step Four:

Count from _____ to _____ the same number of places to add a decimal to the product.

Multiply Decimals

$$4.6 \times 3.75$$

X _____

Practice!

1) 8.0×0.02

3) $1.73 (0.8)$

2) $0.7 \cdot 0.009$

Word Problem!

Each student in Mr. Mickens class need a new flash drive. Each flash drive costs \$1.15. If there are 24 students in his class, how much will it cost to buy the new flash drives?

CHALLENGE PROBLEM!

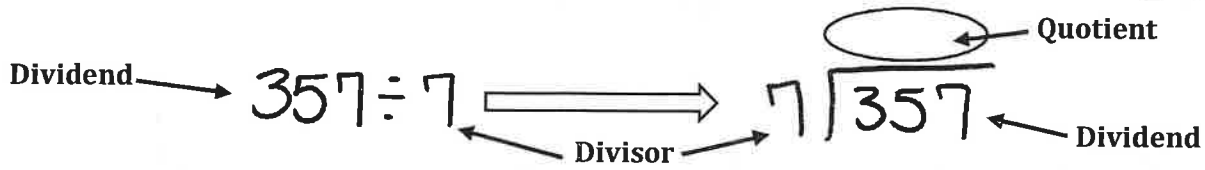
Mr. Mickens wants to give each student 4 pieces of candy. If each piece of candy costs \$0.10 and there are 24 students in the class, how much money will it cost to buy the candy?

Name: _____

Find each product

0.7×0.3	0.05×0.4
8.0×0.02	3.5×0.2
12.1×0.01	9.0×0.9
$0.04 \bullet 0.58$	$2.15 \bullet 1.5$
$6.017 \bullet 2.0$	$3.96 \bullet 0.4$
The average mail carrier walks 4.8 km in a workday. There are 27 working days in July, so how far will a mail carrier walk in July?	A deli charges \$3.45 for a pound of turkey. If Tim wants to purchase 2.4 pounds, how much will it cost?

Steps to Division	Name: _____	Date: _____
Daily Target: I can find the quotient of two numbers.		



Dividend	Divisor	Quotient
A number to be _____ by another number.	A _____ divided into _____ number.	The number that _____ from the _____ of one number by another. (THE ANSWER!)

Lance has 357 marbles and wants to split them between his seven friends. How many marbles does each friend get?

Steps:

1) Does	Divide ÷	
2) McDonalds	Multiply ×	
3) Sell	Subtract –	
4) Cheese	Check √	
5) Burgers and Shakes?	Bring down & start over ↓	

Practice!

824 divided by 4

CHALLENGE PROBLEM!

There will be 142 people at Mr. Pippin's wedding reception. There is room for 12 people at each table. How many tables will be full?

Long Division with a Grid (A)

Name: _____

Date: _____

Calculate each quotient.

16)	28464					
	-						
	-						
	-						
	-						
	-						

74)	12284					
	-						
	-						
	-						
	-						
	-						

15)	74505					
	-						
	-						
	-						
	-						
	-						

63)	34524					
	-						
	-						
	-						
	-						
	-						

58)	88682					
	-						
	-						
	-						
	-						
	-						

72)	58680					
	-						
	-						
	-						
	-						
	-						

Dividing Decimals

Name: _____

Date: _____

Daily Target: I can divide two decimals to the thousandths place.

Dividing Decimal Steps:

Step One:

Make the _____ a whole number by moving the decimal point to the _____. _____ the decimal point in the dividend by the _____ of hops. This is the same as multiplying both numbers by 10 (for each hop).

Step Two:

Place the decimal point in the answer _____ with the decimal point in the _____.

Step Three:

_____ the numbers. *Be sure that the decimal points remain lined up.*

$$12.64 \div 0.2$$

Practice!

1) $32.75 \div 2.5$

2) $24.81 \div 0.3$

Challenge Problem!

Ms. Juengel wanted to finish watching a new TV series by the end of the week. Each episode is 1.5 hours long and there are 16 episodes left. About how many hours each day must she watch to finish the show on time?

0.75 cm Graph Paper

Four lines per three centimeters. Black lines.

①	0.9	9.0		②	3.7	29.6		③	1.5	10.5	
	-				-				-		
④	4.8	15.3	6	⑤	5.1	20.4		⑥	2.5	37.5	
	-				-				-		
⑦	6.9	16.5	6	⑧	8.5	28.9					
	-				-						
⑨	2.3	10.8	1	⑩	0.7	14.3	5				
	-				-						

Least Common Multiple

Name: _____

Date: _____

Daily Target: I can find the least common multiple of two numbers.

Least Common Multiple

The _____ common _____ is the _____ quantity that is a _____ of _____ or more numbers.

Example!

Listing Method

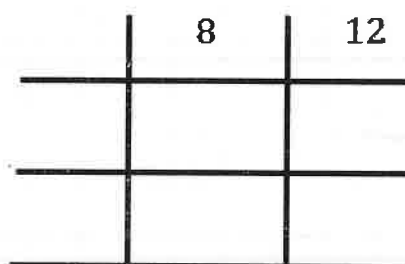
8, 12

8 -

12 -

LCM = _____

Ladder Method



Makes an L, so you multiply your numbers to get your LCM

___ x ___ x ___ x ___ =

→ LCM = _____

Practice! Find the least common multiple of each pair of numbers.

1) 6 and 4

3) 5 and 9

2) 4 and 5

4) 8 and 6

Word Problem Practice (LCM & GCF)! Highlight the key words!

1) Mr. Mickens is playing prodigy. It takes 4 rounds to kill a wolf but it takes 6 rounds to kill a boss. If he defeats a boss and a wolf at the same time, after how many rounds will he defeat another wolf and boss at the same time?

2) Ms. Trish brought in two subs that measure 9 feet and 6 feet. She wants to cut the subs into equal pieces that are as long as possible to share with her friends. Into what lengths should she cut the sub?

Think: What key words hint that you are finding LCM? What about GCF? Write it down below.

Name: _____

Find the least common multiple (LCM) of each set of numbers.

2 and 5	6 and 8
10 and 12	3, 6, and 9
3, 5, and 9	Mr. Stevenson is ordering shirts and hats for his Boy Scout troop. There are 45 scouts in the troop. Hats come in packs of 3, and shirts come in packs of 5. What is the least number of packs of each he should order so that each scout will have 1 hat and 1 shirt, and none will be left over?
Tony wants to make 36 party bags. Glitter pens come in packs of 6. Stickers come in sheets of 4, and balls come in packs of 3. What is the least number of each package he should buy to have 1 of each item in every party bag, and no supplies left over?	Glenda is making 30 school supply baskets. Notepads come in packs of 5. Erasers come in packs of 15, and markers come in packs of 3. What is the least number of each package she should buy to have 1 of each item in every basket, and no supplies left over?

Greatest Common Factor	Name: _____	Date: _____
Daily Target: I can find the greatest common factor of two numbers.		

Greatest Common Factor

The _____ common _____ is the largest _____ number that can _____ two numbers.

Examples

Listing Method:

Factors of 12 _____, _____, _____, _____, _____

Factors of 16 _____, _____, _____, _____, _____

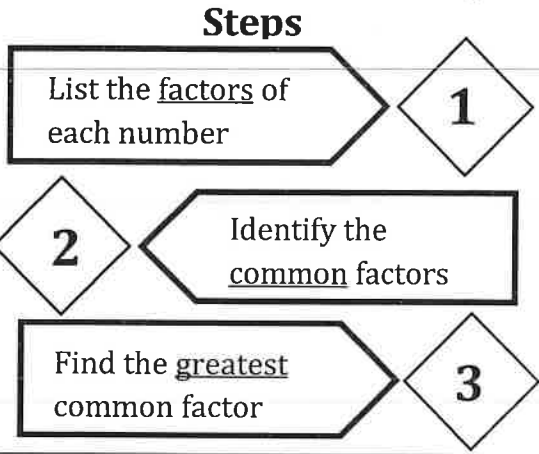
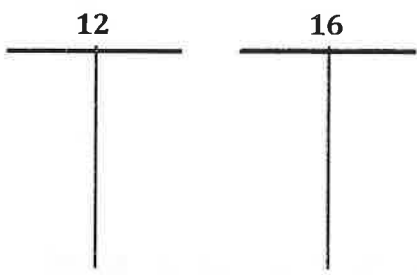
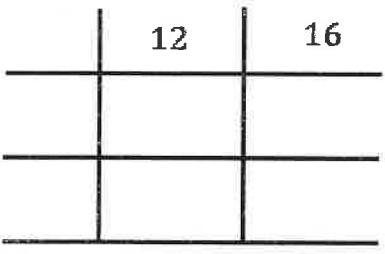


Table Method



Ladder Method



2 & 4 are factors both 12 and 16 have in common, with _____ being the greatest. So _____ is the GCF.

Practice! Find the greatest common factor for each pair of numbers.

- 1) 21 & 12
- 2) 2 & 8
- 3) 45 & 20
- 4) 42 & 6

Word Problem Practice!

Thirty-six girls and 24 boys have signed up for math team. Each team must have an equal number of girls and boys to participate. What is the greatest number of teams possible?

Name: _____

Find the GCF of each set of numbers.

12 and 15	16 and 24
48 and 64	16, 28, and 48
18, 36, and 54	25, 35, and 45
Mr. Thompson's sixth-grade class is competing in the school field day. There are 16 boys and 12 girls in his class. He divided the class into the greatest number of teams possible with the same number of boys on each team and the same number of girls on each team. How many teams were made if each person was on a team? How many girls were on each team? How many boys?	Barbara is making candy bags for her birthday party. She has 24 lollipops, 12 candy bars, and 42 pieces of gum. She wants each bag to have the same number of each kind of candy. What is the greatest number of bags she can make if all the candy is used? How many pieces of each kind of candy will be in each bag?

1) $19.2 + 31.82$	2) $77.2 - 43.778$
3) 4.23×9	4) $2.072 \div 5.6$
5) $48 + 58.1$	6) $97.68 - 32.3$
7) 4.4×2.727	8) $0.6144 \div 1.6$
9) How much money should Jesse get back when he uses \$20.00 to pay for his purchases totaling \$4.75?	10) What is the product of 2.8 and 4.23?

Distributive Property

Name: _____

Date: _____

Daily Target: I can apply the distributive property to a given equation.

Distributive Property

The _____ Property lets you _____ the sum by first multiplying the addends and then _____ them together.

The Distributive _____ lets you multiply the _____ by first _____ the parts of the subtraction problem and then subtracting.

Example:

$$3(2 + 5) =$$

$$(5 - 1)2 =$$

Steps!

1

Multiply the outside number by the first inside number

2

Multiply the outside number by the second inside number

Practice!

1) $2(4 + 6) =$

3) $(m + 1)5 =$

2) $(8 - 3)3 =$

4) $5(t - 2) =$

5) If you distribute $6(8 + 2)$, what two numbers do you add?

Challenge Question: If you distribute $2(b - 3)$ and $b = 8$, what is the answer?

Name: _____ # _____ Date: _____

Directions: Rewrite the expression using the distributive property of multiplication and then solve. **Be sure to show your steps work to receive credit!**

1. $9(x + 9)$	2. $8(2 + s)$
3. $6(5+f)$	4. $7(2k+9)$
5. $2(p+5)$	6. $2(4+n)$
7. $5(4 + 2)$	8. $9(4+4)$
9. $2(8+9)$	10. $7(8+7)$

ADDITIONAL NOTES

Lined area for notes with multiple horizontal lines.

