Name _____ **Date** _____

Multiplication Review

Classwork

1) Multiplication is a shortened way of showing an _____sentence.

2) What is the product of 4 x 7 _____.

3) The numbers being multiplied together are called the _____.

4) If you know 5 x 3 = 15, can you figure out 50 x 3 = _____?

5 x 30_____? 50 x 30 = _____?

5) Cindy couldn't remember the addition equivalent sentence for 80 x 4. Write the addition sentence for Cindy.

_____

6) Draw arrays with any symbol you choose below.

6 x 5 4 x 3

7) There are 6 fourth grade classes at Mt. Vernon School. If each class has 9 girls and 8 boys, how many girls are there? _____ How many boys are there? _____ How fourth graders are there in all? _____

8) Which two equations represent the statement "36 is 9 times as many as 4"?

a. 36 = 9 + 4
b. 36 = 4 x 9
c. 36 = 9 x 4
d. 36 = 4 + 9

Name _____ **Date** _____

Multiplication Review

Homework

9) What is the answer to a multiplication problem called? _____

10) In the equation, 4 X 3 = 12, which number(s) are factor(s)? _____

11) If you know 6 x 7 = 42, can you figure out 60 x 7 _____?

6 x 70 _____? 60 x 70 _____?

12) Write the addition sentence for 55 X 6.

_____

13) Draw arrays with any symbol you choose below.

4 x 4 2 X 7

14) If there are 10 crackers in each package, how many crackers are in 5 packages? _____

15) A candy company puts 4 gumdrops in each bag. How many gumdrops will the company need to fill 9 bags? _____ 11 bags? _____

16) Which two equations represent the statement “24 is 8 times as many as 3”?

a. 24 = 8 x 3
b. 24 = 8 + 8
c. 24 = 3 x 8
d. 24 = 3 + 8

Name _____ **Date** _____

Multiplication Properties

Classwork

17) Match the following examples with their property name.

3 X 4 = 4 X 3	Associative Property
1 X 34 = 34	Commutative Property
5 X (6 X 7) = (5 X 6) X 7	Zero Property
7(6 – 2) = (7 X 6) – (7 X 2)	Identity Property
123 X 0 = 0	Distributive Property

18) Write the multiplication sentence below each array. Then tell what multiplication property they are modeling.

_____

19) Identify the Commutative Property of Multiplication.

A. 6 X 1 = 6
B. 6 x (2 X 7) = (6 X 2) X 7
C. 6 X 2 = 2 X 6
D. 6 X 1/6 = 1

20) Identify the Associative Property of Multiplication.

A. 9 X 3 = 3 X 9
B. 9 X (3 + 4) = (9 X 3) + (9 X 4)
C. 9 X 1 = 9
D. 9 X (3 X 7) = (9 X 3) X 7

21) Identify the Distributive Property of Multiplication.

A. 5 X 1 = 5
B. 5(11 + 4) = (5 X 11) + (5 X 4)
C. 5 X 11 = 11 X 5
D. (5 X 11) x 4 = 5 X (11 X 4)

Using your knowledge of multiplication properties, fill in the missing numbers.

22) 9 × 2 = _____ × 9

23) 10 × (3 × 5) = (10 × 3) × _____

24) 4 × (6 × 7) = (_____ × 6) × 7

25) 5 X 1 = _____

26) 0 X _____ = 0

Rewrite the multiplication sentence using the Distributive Property.

27) 5 × 19 = (____ × ____) + (____ × ____)

28) (9 × 3) + (9 × 8) = ____ × (____ + ____)

Name _____ **Date** _____

Multiplication Properties

Homework

29) Write an example of each of the properties below.

Identity Property _____

Zero Property _____

Commutative Property _____

Associative Property_____

Distributive Property _____

30) Look at the array below. Write what multiplication sentence is being shown by each side.

Now combine the sentences to write the equation using the Distributive Property. _____

31) Identify the Associative Property of Multiplication.

A. 12 × 1 = 12

B. 12 × (9 + 7) = (12 × 9) + (12 × 7)

C. 12 × (9 × 7) = (12 × 9) × 7

D. 12 × 9 = 9 × 12

32) Identify the Commutative Property of Multiplication.

A. 8 × (5 + 9) = 8 × 5 + 8 × 9

B. 8 × (5 × 9) = 8 × 5) × 9

C. 8 × 5 = 5 × 8

D. 8 X 1 = 8

33) Identify the Distribute Property of Multiplication.

A. $7 \times 1 = 7$
B. $7 \times (3 + 8) = 7 \times 3 + 7 \times 8$
C. $7 \times 3 = 3 \times 7$
D. $(7 \times 3) \times 8 = 7 \times (3 \times 8)$

Using your knowledge of multiplication properties, fill in the missing numbers.

34) $6 \times \_\_\_\_\_ = 3 \times 6$

35) $5 \times (10 \times 9) = (\ \_\_\_\_\_ \times 10) \times 9$

36) $5 \times \_\_\_\_\_ = 10 \times 5$

37) _____ x 1 = 54

38) 987 x _____ = 0

Rewrite the multiplication sentences using the Distributive Property.

39) $2 \times 36 = (\ \_\_\_\_ \times \_\_\_\_) + (\_\_\_\_ \times \_\_\_\_)$

40) $(5 \times 13) + (5 \times 9) = \_\_\_\_ \times (\_\_\_\_ + \_\_\_\_)$

Name _____ **Date** _____

Factors #1

Classwork

Look at the arrays below. Write the multiplication sentence for each and then circle the factors in each multiplication sentence.

41)  

_____ _____

42) You should always start factoring with the given number and _____ because these are given factors for every number.

List all of the factors for each number using a factor rainbow.

43) 16 _____

44) 45 _____

45) 74 _____

46) Is 6 a factor of 92? _____

47) Is 3 a factor of 92? _____

48) Is 2 a factor of 92? _____

49) In class, we used the associative property to show that when 6 is a factor, then 2 and 3 are factors, because 6 = 2 x 3. Use the fact that 8 = 4 x 2 to show that 2 and 4 are factors of 56, 72, and 80.

56 = 8 x 7 72 = 8 x 9 80 = 8 x 10

50) Shelly has 28 stickers to divide out evenly among 3 friends. She thinks there will be no leftovers. Use what you know about factor pairs to explain if Shelly is right.

51) Find all of the factors for the following.

Factor Pairs for 25	

Factor Pairs for 28	

Factor Pairs for 29	

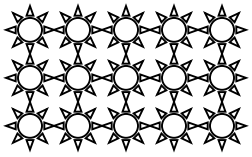
52) Red is making a garden. She wants it to be 30 square feet. What are 3 possible dimensions her garden could be? Draw a picture and label each one.

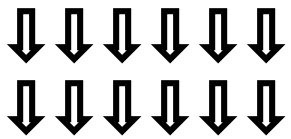
Name _____ **Date** _____

Factors #1

Homework

53) Look at the arrays below. Write the multiplication sentence for each and circle the factors.





_____ _____

54) What are the 2 numbers you always start a factor rainbow with? _____ and _____

List all of the factors for each number using a factor rainbow

55) 45_____

56) 26_____

57) 80_____

58) Is 6 a factor of 72? _____

59) Is 3 a factor of 72? _____

60) Is 2 a factor of 72? _____

61) In class we used the associative property to show when 6 is a factor, then 2 and 3 are factors, because $6 = 2 \times 3$. Use the fact $10 = 5 \times 2$ to show that 2 and 5 are factors of 70, 80, and 90.

$70 = 10 \times 7$ $80 = 10 \times 8$ $90 = 10 \times 9$

62) Marcus was 24 pieces of candy he wants to share with 4 friends. He believes he can pass them out without any leftovers. Use what you know what factors to explain if Marcus is correct.

63) Find all of the factors for the following.

Factor Pairs for 18	

Factor Pairs for 13	

Factor Pairs for 21	

64) Riley is making a garden. She wants it to be 36 square feet. What are 3 possible dimensions her garden could be? Draw a picture and label each one.

Name _____ **Date** _____

Factors #2

Classwork

List all of the factors for each number.

65) 84 _____

66) 44 _____

67) 36 _____

68) 63 _____

69) 98 _____

70) 69 _____

71) 57 _____

Homework

72) 75 _____

73) 48 _____

74) 78 _____

75) 50 _____

76) 88 _____

77) 62 _____

78) 54 _____

Name _____ **Date**_____

Prime and Composite Numbers

Classwork #1 (From Engage^{NY})

79) Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	Factors	P or C
a.	4 $1 \times 4 = 4$ $2 \times 2 = 4$	The factors of 4 are: 1,2, and 4	C
b.	6	The factors of 6 are:	
c.	7	The factors of 7 are:	
d.	9	The factors of 9 are:	
e.	12	The factors of 12 are:	
f.	13	The factors of 13 are:	
g.	15	The factors of 15 are:	
h.	16	The factors of 16 are:	
i.	18	The factors of 18 are:	
j.	19	The factors of 19 are:	
k.	21	The factors of 21 are:	
l.	24	The factors of 24 are:	

Name _____ **Date**_____

Prime and Composite Numbers

Homework #1 (From Engage[NY])

80) Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	Factors	P or C
a.	8 $1 \times 4 = 8$ $2 \times 4 = 8$	The factors of 8 are: 1, 2, 4, and 8	C
b.	10	The factors of 10 are:	
c.	11	The factors of 11 are:	
d.	14	The factors of 14 are:	
e.	17	The factors of 17 are:	
f.	20	The factors of 20 are:	
g.	22	The factors of 22 are:	
h.	23	The factors of 23 are:	
i.	25	The factors of 25 are:	
j.	26	The factors of 26 are:	
k.	27	The factors of 27 are:	
l.	28	The factors of 28 are:	

Name _____ **Date**_____

Prime and Composite Numbers

Classwork #2

81) When determining if a number is prime or composite, you need to think about how many factors the number has? True or False

82) How many factors does a prime number have? _____

83) List three prime numbers _____, _____, _____.

84) What makes 25 a composite number?

_____

85) Is two prime or composite? _____

Explain your answer _____

_____

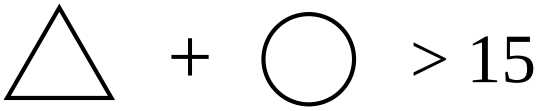
86) Sort the following numbers as either prime or composite

18, 23, 13, 89, 56, 77, 73, 43, 51, 54

Prime	**Composite**

87) Sue told her friend that all even numbers are composite. Her friend did not believe her. Draw a picture using examples to help Sue show her friend why this is true.

88) The triangle and circle each represent two different prime numbers less than 15. When they are added, they make a sum larger than 15. Come up with three possible combinations for what the triangle and circle could represent.



possible combination 1	**possible combination 2**	**possible combination 3**
△ = _____	△ = _____	△ = _____
○ = _____	○ = _____	○ = _____

Name _____ **Date**_____

Prime and Composite Numbers

Homework #2

89) Harry believes all odd numbers are prime. Is he correct? _____
Explain your answer _____
_____

90) How many factors does a composite number have?
_____

91) List three prime numbers _____, _____, _____.

92) Why is 49 a composite number? _____
_____

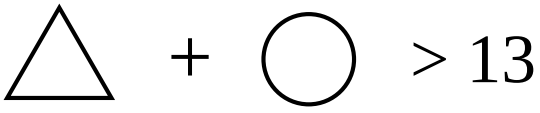
93) Is zero prime or composite? Explain your answer _____
_____
_____

94) Sort the following numbers as either prime or composite
21, 23, 33, 45, 48, 51, 58, 62, 75, 101

Prime **Composite**

95) Jared knows 48 is a composite number. Draw a visual representation to show he is correct.

96) The triangle and circle each represent two different prime numbers less than 13. When they are added, they make a sum larger than 13. Come up with three possible combinations for what the triangle and circle could represent.



possible combination 1	possible combination 2	possible combination 3
△ = _____ ○ = _____	△ = _____ ○ = _____	△ = _____ ○ = _____

Name _____ **Date** _____

Multiples

<u>Classwork</u> #1

97) When you skip count by any number, the numbers you say are called _____.

98) Complete the pattern of multiples by skip-counting.

7, 14, _____, 28, _____, _____, _____, _____, _____, _____

99) Multiples are the same as factors. True or False

100) When you divide 53 into 4, you end up with a remainder. Is 53 a multiple of 4? Explain. _____
_____

101) Write 4 multiples of 5 starting at 75: _____

102) Write 4 multiples of 4 starting at 40: _____

103) Write 4 multiples of 6 starting at 24: _____

<u>**Multiple answer questions 102-104:</u>

104) Which of the following are multiples of 10?

A. 50 B. 40 C. 90 D. 35

105) Which of the following are multiples of 5?

B. 45 B. 22 C. 48 D. 20

106) Allen is working on building a fence in the shape of a square. Each side of the fence is an equal length of 20 ft. Using your knowledge of multiples, which of the following is the possible length of his TOTAL fence? Draw a picture to help solve.

C. 20 ft. B 30 ft. C. 40 ft. D. 80 ft.

Name _____ **Date** _____

Multiples

<u>Homework</u> #1

107) Multiples are made by using _____. You can multiply these numbers together, to find a given multiple.

108) Complete the pattern of multiples by skip counting.

6, 12, ____, 24, ____, ____, ____, ____, ____, ____

109) How do you know that 42 is a multiple of 6? Show your work.

_____

_____

110) Circle the numbers which are multiples of 2.

5 8 10 13 9 4 11 12 7

111) Circle the numbers which are multiples of 3.

6 24 18 20 12 15 11 21 23 9

112) Write 4 multiples of 5 starting at 100: _____

113) Write 4 multiples of 4 starting at 20: _____

114) Write 4 multiples of 6 starting at 36: _____

115) Which of the following is a multiple of 11?

D. 89 B. 82 C. 44 D. 67

116) Jerry is running 3 sections in a relay race. If each section is the same amount, which of the following could be the TOTAL distance for he ran for the race? Draw a picture to solve.

E. 7 B. 12 C. 14 D. 10

Name _____ **Date** _____

Multiples

Classwork #2

117) Use mental math, division, or the associate property to solve.[1]

a. Is 12 a multiple of 4? _____ Is 4 a factor of 12? _____

b. Is 42 a multiple of 8? _____ Is 8 a factor of 42? _____

c. Is 84 a multiple of 6? _____ Is 6 a factor of 84? _____

d. Is 96 a multiple of 8? _____ Is 8 a factor of 96? _____

e. Is 52 a multiple of 7? _____ Is 7 a factor of 52? _____

Homework #2

118) Use mental math, division, or the associate property to solve.[2]

a. Is 12 a multiple of 3? _____ Is 3 a factor of 12? _____

b. Is 48 a multiple of 8? _____ Is 48 a factor of 8? _____

c. Is 56 a multiple of 6? _____ Is 6 a factor of 56? _____

d. Is 76 a multiple of 8? _____ Is 8 a factor of 76? _____

e. Is 63 a multiple of 9? _____ Is 9 a factor of 63? _____

[1] Derived From Engage NY
[2] Derived From Engage NY

Name _____ **Date** _____

Inverse Operations

Classwork #1

119) Inverse operations are used to solve for the _____ in an equation.

120) Multiplication and division are inverse operations. **True** or **False**

Rewrite the following equations to show how you use inverse operations to solve for unknowns. You do not need to solve.

121) 3y = 15 _____

122) $\square \div 3 = 8$ _____

123) ? x 4 = 40 _____

Use inverse operations to solve for the unknown in the equation.

124) 49 ÷ ? = 7 _____

125) 4 x *w* = 32 _____

126) Kaylee is going on a hike that is 4 times longer than Kim's. Kaylee hiked 36 miles. How many miles did Kim hike?

127) Jim and Cory are playing marbles. Cory has 15 marbles, and Jim has twice as many as Cory. How many marbles does Jim have? How many marbles do they have all together?

Name _____ **Date** _____

Inverse Operations

Homework #1

128) When solving for unknown values, you can use _____ to help find the answer.

129) Multiplication and division; addition and subtraction are not inverse operations.

True or **False**

Rewrite the following equations to show how you use inverse operations to solve for unknowns. You do not need to solve.

130) $12m = 48$ _____

131) $\square \div 8 = 8$ _____

132) $? \times 9 = 72$ _____

Use inverse operations to solve for the unknown in the equation.

133) $56 \div p = 7$ _____

134) $\square \div 5 = 45$ _____

135) Kaylee is going on a hike that is 3 times longer than Kim's. Kaylee hiked 18 miles. How many miles did Kim hike?

136) Jim and Cory are playing marbles. Cory has 12 marbles, and Jim has twice as many as Cory. How many marbles does Jim have? How many marbles do they have all together?

Name _____ Date _____

Inverse Operations
Classwork #2

In each word problem, write an equation using a variable. You may have to use more than one step. Then solve.

137) A red umbrella costs $8.00. A green umbrella costs 3 times as much as the red umbrella. How much does the green umbrella cost?

138) Joe bought 8 boxes of dumplings. Each box has 11 dumplings. Joe ate 16 dumplings in four days. How many dumplings does he have left?

139) A rubber band is 6 cm long. How long will the rubber band be if it is stretched to be three times as long?

140) Scott has 36 pieces of candy he wants to share with his friends. He has 4 friends. How many pieces of candy does each of his friends get?

141) Max has 5 packs of gum. Each pack has 6 pieces of gum in it. Max wants to share his gum with 5 his friends. If each person gets the same amount, how much does each get?

Name _____ Date _____
Inverse Operations
Homework #2

In each word problem, write an equation using a variable. You may have to use more than one step. Then solve.

142) A red jacket costs $12.00. A green jacket costs 4 times as much as the red jacket. How much does the green jacket cost?

143) Joe bought 6 boxes of fruit snacks. Each box has 10 fruit snacks. Joe ate 14 fruit snacks in four days. How many fruit snacks does he have left?

144) A rubber band is 7 cm long. How long will the rubber band be if it is stretched to be four times as long?

145) Scott has 42 trading cards he wants to share with his friends. He has 7 friends. How many trading cards does each of his friends get?

146) Max has 3 packs of candy. Each pack has 6 pieces of candy in it. Max wants to share his candy with 9 his friends. If each person gets the same amount, how much does each get?

Name_____ **Date**_____

Multiplication & Division Relationship Unit Review

PMI 4th Grade

Multiple Choice – Circle the letter next to the correct answer.

1) The numbers that you multiply together are called

   a) multiples b) products

   c) addends d) factors

2) What is the correct array for 5 x 4?

   a) OOOOO
      OOOOO
      OOOOO
      OOOOO

   b) $ $ $ $
      $ $ $ $
      $ $ $ $
      $ $ $ $

   c) # # # # #

   d) * * * *
      * * * *

3) What is the product of 0 x 9?

   a) 9 b) 1 c) 0 d) 90

4) If there are 9 cookies in a bag, how many cookies will be passed out to students in 8 bags?

   a) 9 cookies b) 72 cookies

   c) 8 cookies d) 63 cookies

5) There are 4 sections to look through in the school library. If there are 8 books and 1 video in each section, how many books are there? _____ How many videos are there? _____ How many materials are there in total? _____

6) The Commutative Property allows numbers to change order?

True or **False**

7) Which of the follows shows the Identity Property?

a) M x 0 = 0 b) 7 (9 x 8) = (7 x 9) x 8

c) 7 x 8 = 8 x 7 d) y x 1 = y

8) 5(10 + 4) = (5 x 10) + (5 x 4) is an example of what property?

a) Associative Property b) Commutative Property

c) Zero Property d) Distributive Property

9) Which of the following are the factors of 18?

a) 1, 2, 9, 18 b) 2, 3, 6, 9

c) 1, 2, 3, 6, 9, 18 d) 18, 36, 54, 90

10) There are 3 numbers for the combination to the store's safe. The first number is 17. The other 2 numbers can be multiplied together to give a product of 28. What are all of the possibilities? Write your answers as a multiplication equation.

11) Which of the following are the factors of 80?

a) 80, 90, 100, 110 b) 1, 2, 3, 4, 5

c) 1, 80 d) 1, 2, 4, 5, 8, 10, 16, 20, 40, 80

12) Circle the number that is prime.

a) 6 b) 9 c) 11 d) 15

13) Which of the following is a list of composite numbers?

a) 1, 2, 4, 6 b) 4, 6, 8, 15

c) 3, 5, 7, 9 d) 11, 13, 23, 31

14) Skip counting is an easy way to identify _____ of a number.

a) factors b) product

c) inverse operation d) multiples

15) Jack is 36 years old. He went to a birthday party for someone in his family named Alicia. When he was there, he realized that his age is a multiple of Alicia's age. Find all the possible ages that Alicia could be. Show your work in the space below, and then write your answers on the lines.

Alicia's age could be _____, _____, _____, _____, _____, _____, _____, or _____.

16) Which of the following is a multiple of 4?

a) 8 b) 1 c) 31 d) 22

17) Which is the correct inverse operation to solve the equation, 7 x r = 56?

a) x 7 b) x 56

c) ÷ 7 d) ÷ 56

18) Scott is reading a book that has 172 pages. Melanie is reading a book that has three times as many pages as Scott's book.

How many pages does Melanie's book have? Select all the equations that represent this problem.

$172 \div 3 = \square$	$3 \times \square = 172$
$172 \times 3 = \square$	$\square \div 3 = 172$
$\square \div 172 = 3$	$172 \div \square = 3$

19) Which is the correct inverse operation to solve the equation $p \div 9 = 4$?

a) $\div 9$ b) x 9

c) $\div 4$ d) x 4

20) Identify each number as prime or composite. Then list all its factors.

a. 3 _____ _____

b. 6 _____ _____

c. 15 _____ _____

d. 24 _____ _____

e. 29 _____ _____

21) What is the greatest multiple of 7 that is less than 60? _____

22) Javier says that all odd numbers great than 2 and less than 20 are prime. Find an odd number greater than 2 and less than 20 that is not prime. Explain why the number is not prime.

23) There are eight teams competing in the soccer tournament.

- If each team has 7 players and 2 coaches, how many people will be included in the event?
- If the amount of people you calculated was added to the number of referees helping with games, the sum would be 80. What operation would you use to figure out the number?
- When you found the unknown number, you used _____.
- Is the unknown number prime? How do you know?

Answer Key

Class Work: Multiplication Review

1) Addition
2) 28
3) Factors
4) 150; 150 1,500
5) 80 + 80 + 80 + 80
6) xxxxx xxx
   xxxxx xxx
   xxxxx xxx
   xxxxx xxx
   xxxxx
   xxxxx
7) 54 girls; 48 boys; 102 students
8) b and c

Homework: Multiplication Review

9) Product
10) 4 and 3
11) 420; 420; 4,200
12) 55 + 55 + 55 + 55 + 55 + 55
13) xxxx xxxxxxx
    xxxx xxxxxxx
    xxxx
    xxxx
14) 50
15) 36 gumdrops; 44 dumdrops
16) a and c

Class Work: Multiplication Properties

17) Commutative Property
    Identity
    Associative,
    Distributive,
    Zero Property
18) 2 x 3 and 3 x 2
    Commutative Property
19) C
20) D
21) B
22) 2
23) 5
24) 4
25) 5
26) Answers will vary
27) (5 x 10) + (5 X 9)
28) 9 x (3 + 8)

Homework: Multiplication Properties

29) Answers will vary – students should have example for 5 properties
30) 3 x 2 and 3 X 3
    Written with distributive =
    3 x (2 +3)
31) C
32) C
33) B
34) 3
35) 5
36) 10
37) 54
38) 0
39) (2 x 30) + (2 x 6)
40) 5 x (13 + 9)

Classwork: Factors #1

41) 2 x 3 = 6 and 3 x 4 = 12; circle the factors 2,3 and 3, 4
42) 1

Students should have a rainbow connecting factors on their paper for problems 41 – 44

43) 1, 2, 4, 4, 8, 16
44) 1, 3, 5, 9, 15, 45
45) 1, 2, 37, 74

46) no
47) no
48) yes
49) (2 x 4) x 7 – 2 x (4 x 7)
(2 x 4) x 9 – 2 x (4 x 9)
(2 x 4) x 10 – 2 x (4 x 10)
50) No, Shelly is wrong because 3 is not a factor of 28. There will be a remainder of 1. 3 x 9 = 27
51)

25	28	29
1, 25	1, 28	1, 29
5, 5	2, 14	
	4, 7	

52) Dimensions of 1 x 30; 2 x 15, and 5 x 6 with pictures

Homework: Factors #1

53) 3 x 5 = 15 and 2 x 6 = 12; circle the factors 3, 5, and 2, 6
54) 1 and the given number

Students should have a rainbow connecting factors on their paper for problems 52 - 54

55) 1, 3, 5, 9, 15, 45
56) 1, 2, 14, 26
57) 1, 2, 4, 5, 8, 10, 16, 20, 40, 80
58) yes
59) yes
60) yes
61) (5 x 2) x 7 – 5 x (2 x 7)
(5 x 2) x 8 – 5 x (2 x 8)
(5 x 2) x 9 – 5 x (2 x 9)
62) Yes, Marcus is right because 4 is a factor of 24. 4 x 7 = 24
63)

18	13	21
1, 18	1, 13	1, 21
2, 9		3, 7
3, 6		

64) Answers will vary – 4 x9; 6 x 6; and 12 x 3 are possible answers with a picture

Classwork: Factors #2

65) 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84
66) 1, 2, 4, 11, 22, 44
67) 1,2, 3, 4, 6, 9, 12, 18, 36
68) 1, 3, 7, 9, 21, 63
69) 1, 2, 7, 14, 49, 98
70) 1, 3, 23, 69
71) 1, 3, 19, 57

Homework: Factors #2

72) 1, 3, 5, 15, 25, 75
73) 1, 2, 3, 4, 6, 8, 12, 16, 48
74) 1, 2, 3, 6, 13, 26, 39, 78
75) 1, 2, 5, 10, 25, 50
76) 1, 2, 4, 8, 11, 22, 44, 88
77) 1, 2, 31, 62
78) 1, 2, 3, 6, 9, 18, 27, 54

Classwork: Prime & Composite #1

79)
b) 1 x 6 = 6, 2 x 3 = 6
Factors: 1, 2, 3, 6 Composite
c) 1 x 7 = 7
Factors: 1, 7 Prime
d) 1 x 9 = 9, 3 x 3 = 9
Factors: 1, 3, 9 Composite
e) 1 x 12= 12, 2 x 6= 12, 3 x 4= 12
Factors: 1, 2, 3, 4, 6, 12 Comp.
f) 1 x 13 = 13
Factors: 1, 13 Prime
g) 1 x 15 = 15, 3 x 5 = 15
Factors 1, 3, 5, 15 Composite
h) 1 x 16= 16, 2 x 8= 16, 4 x 4= 16
Factors: 1, 2, 4, 8, 16 Composite
i) 1 x 18= 18, 2 x 9= 18, 3 x 6= 18
Factors: 1, 2, 3, 6, 9, 18 Comp.
j) 1 x 19 = 19
Factors 1, 19 Prime
k) 1 x 21 = 21, 3 x 7 = 21

Factors: 1, 3, 7, 21 Composite
l) 1 x 24 = 24, 2 x 12 = 24, 3 x 8 = 24, 4 x 6 = 24
Factors: 1,2,3,4,6,8,12,24 Comp.

Homework: Prime & Composite #1

80)
b) 1 x 10 = 10, 2 x 5 = 10
Factors: 1, 2, 5, 10 Composite
c) 1 x 11 = 11
Factors: 1, 11 Prime
d) 1 x 14 = 14, 2 x 7 = 14
Factors: 1, 2, 7, 14 Composite
e) 1 x 17 = 17
Factors: 1, 17 Prime
f) 1 x 20=20, 2 x 10=20, 4 x 5=20
Factors: 1, 2, 4, 5, 10, 20 Comp.
g) 1 x 22 = 22
Factors: 1, 22 Prime
h) 1 x 23 = 23
Factors: 1, 23 Prime
i) 1 x 25 = 25, 5 x 5 = 25
Factors: 1, 5, 25 Composite
j) 1 x 26 = 26, 2 x 13 = 26
Factors: 1, 2, 13, 26 Composite
k) 1 x 27 = 27, 3 x 9 = 27
Factors: 1, 3, 9, 27 Composite
l) 1 x 28=28, 2 x 14=28, 4 x 7=28
Factors: 1, 2, 4, 7, 14, 28 Comp.

Classwork: Prime & Composite #2

81) True
82) 2
83) Answers will vary
84) 25 is a composite number because it has more factors than 1 and itself. 5 x 5 = 25
85) Prime, because the number 2 only has 1 and itself as factors. Nothing else multiples to equal 2.
86) Prime: 23, 13, 89, 77, 73, 43
Composite: 18, 56, 51, 54
87) Answers will vary but arrays, multiplication sentence showing factors, etc. should be given
88) 11 + 5; 11 + 7; 3 + 13

Homework: Prime & Composite #2

89) No, not all odd numbers are prime. An example is 9. 9 is a composite number because it has 3 as an additional factor but is also odd.
90) It varies, however, it has to have at least 3, like with 9 in previous example
91) Answers will vary
92) 49 is a composite number because 7 x 7 is a factor pair that equals 49.
93) Zero is neither because no matter what number you multiply it by, it is always zero
94) Prime: 23, 101
Composite: 21, 33, 45, 48, 51, 58, 62, 75
95) Answer will vary – an array showing a factor pair is appropriate
96) 7 + 11; 11 + 3; 11 +5

Classwork #1: Multiples

97) multiples
98) 21, 35, 42, 49, 56, 63, 70
99) false
100) No, because there will be no remainders if a number is a multiple of another.
101) 75, 80, 85, 90
102) 40, 44, 48, 52
103) 24, 30, 36, 42
104) A, B, C
105) A, D
106) D

Homework #1: Multiples

107) Factors
108) 18, 30, 36, 42, 48, 54, 60
109) 42 is a multiple of 6 because 6 x 7 = 42.
110) Circle numbers 8, 10, 4, 12
111) Circle numbers: 6, 24, 18, 12, 15, 21, 9
112) 100, 105, 110, 115
113) 20, 24, 28, 32
114) 36, 42, 48, 54
115) C
116) B

Classwork #2: Multiples

117)
- a. Yes, yes
- b. No, no
- c. Yes, yes
- d. Yes, yes
- e. No, no

Homework #2: Multiples

118)
- a. Yes, yes
- b. Yes, yes
- c. No, no
- d. No, no
- e. Yes, yes

Classwork: Inverse Operations #1

119) Unknown
120) True
121) 15 ÷ 3 = y
122) 8 x 3 = _____
123) 40 ÷ 4 = ?
124) 7
125) 8
126) 4 x K = 36 ~ K = 9 miles
127) Jim = 30 marbles, together they have 45 marbles

Homework: Inverse Operations # 1

128) Inverse operations
129) False
130) 48 ÷ 12 = m
131) 8 x 8 = ____
132) 72 ÷ 9 = ?
133) 8
134) 225
135) 3 x K = 18 ~ K = 6 miles
136) Jim – 24 marbles, together they have 36 marbles

Classwork: Inverse Operations #2

137) 8 x 3 = g; $24.00 for green umbrella
138) 8 x 11 = 88; 88 – 16 = g; g = 72 dumplings
139) 6 x 3 = 18 cm
140) c ÷ 4 = 36; each friend gets 9 candies
141) 5 x 6 = 30; 30 ÷ 5 = g; 6 pieces of gum

Homework: Inverse Operations #2

142) 12 x 4 = g; $48.00 for green jacket
143) 6 x 10 = 60; 60 – 14 = 44 fruit snacks
144) 7 x 4 = 28 cm
145) c ÷ 7 = 42; each friend gets 6 trading cards
146) 3 x 6 = 18; 18 ÷ 9 = 2 pieces of candy

Unit Review Answer Key

1) d
2) b
3) c
4) b
5) 32 books, 4 videos, 36 materials
6) True
7) d
8) d
9) c
10) 1 x 28 = 28 and 28 x 1 = 28
    2 x 14 = 28 and 14 x 2 = 28
    4 x7 = 28 and 7 x 4 = 28
    So the combination possibilities are: 17, 1, 28; 17, 28, 1; 17, 2, 14; 17, 14, 2; 17, 4, 7; 17, 7, 4
11) d
12) c
13) b
14) d
15) 2, 3, 4, 6, 9, 12, 18, 36
16) a
17) c
18) 172 x 3; ___ ÷ 172 = 3;
    ___ ÷ 3 = 172
19) b
20) a. prime – 1, 3
    b. composite – 1, 2, 3, 6
    c. composite – 1, 3, 5, 15
    d. composite –1,2,3,4, 6, 8,12, 24
    e. prime – 1, 29
21) 7, 14, 21, 28, 35, 42, 49, 56, 63 are multiples of 7 so 54 is the greatest multiple less than 60
22) Answers will vary – possible answers are 9 or 15 – they have multiple factors so are composite
23) 8(7 + 2) = (8 x 7) + (8 X 2) = 72 people,
    72 + x = 80 so the operation is – 72.
    The number is 8, found by using inverse operations, 8 is not prime:
    2 x 4 = 8