

Math Practice Sheets

Multiplying Whole Numbers Part I



Student Name

Examples

Practice Questions

Extra Challenge Unit

Example

Commutative Property

The product of two factors remains same when the orders of the factors are changed.

$$3 \times 7 = 7 \times 3 = 21 \quad 9 \times 11 = 11 \times 9 = 99$$

Associative Property

The product remains same when the grouping of the factors changed.

$$(4 \times 3) \times 6 = 4 \times (3 \times 6) = 72$$

Identity Property

The product of a number and the digit 1 is always the same number.

$$1 \times 6 = 6 = 6 \times 1$$

Zero Property

The product of a number and zero (0) is always zero.

$$22 \times 0 = 0 \quad 0 \times 133 = 0$$

Exercise

1. Identify and write the property that is being used in each of the following equalities.

a) $34 \times 0 = 0$

b) $27 \times 2 = 2 \times 27$

c) $4 \times (5 \times 6) = (4 \times 5) \times 6$

d) $1 \times 123 = 123$

e) $(2 \times 7) \times 3 = 2 \times (7 \times 3)$

f) $9 \times 23 = 23 \times 9$

g) $2,334 \times 1 = 2,334$

h) $9 \times (7 \times 10) = (9 \times 7) \times 10$

i) $443 \times 0 = 0$

j) $11 \times 12 = 12 \times 11$

k) $506 \times 1 = 506$

l) $91 \times 30 = 30 \times 91$

m) $0 \times 999 = 0$

n) $246 \times 8 = 8 \times 246$

o) $9 \times (3 \times 0) = (3 \times 9) \times 0$

Exercise

2. Write four equations, each one using one of the four multiplication properties mentioned above.

3. Find the product of each of the following facts. Also, identify which property is being shown.

a) $0 \times 230 =$ _____	b) $57 \times 2 = 2 \times 57$ _____	c) $15 \times (3 \times 2) =$ _____
d) $357 \times 1 =$ _____	e) $(35 \times 1) \times 3 =$ _____	f) $9 \times (0 \times 1) =$ _____

4. Fill in the blanks by using the multiplication properties.

a) $0 \times 331 =$ _____	b) $65 \times$ _____ $= 22 \times 65$
c) $4,559 \times$ _____ $= 4,559$	d) $(45 \times$ _____ $) \times 7 = 45 \times (11 \times 7)$
e) _____ $\times 25 = 25 \times 35$	f) _____ $\times (50 \times 7) = (20 \times 50) \times 7$

5. David collected groups of stickers that contain 365 stickers each. How many stickers does he have if he has collected five groups of stickers?

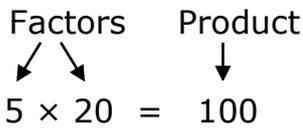
Exercise

6. How can the associative property help to solve the following problem?
 $(59 \times 25) \times 8$
7. Which of the following shows the identity property of multiplication?
a) $(10 \times 7) \times 8 = 10 \times (7 \times 8)$ b) $2,345 + 1 = 2,346$
c) $4,567 \times 1 = 4,567$ d) $4,567 \times 0 = 0$
8. A factory produces 42 boxes of dolls each day. If each box consists of 7 dolls, how many dolls will the company produce in nine days? Write the multiplication sentence and find the answer.
9. Use the associative property to find the product of $67 \times 25 \times 12$. How did you use the property to make your work easier?
10. Why is the product of 12×22 the same as the product of 22×12 ? Explain.
11. If $27 \times (35 \times 2) = (y \times 35) \times 2$, find the value of y .

Example

We use mental math to multiply by multiples of 10, 100, and 1,000.

Factors are numbers that are multiplied and the multiple is the product of factors.



5 and 20 are factors of 100.
100 is the multiple of 5 and 20.

We can find the following pattern.

$$5 \times 9 = 45$$

$$50 \times 9 = 450$$

$$500 \times 9 = 4,500$$

Also,

$$5 \times 90 = 450$$

$$50 \times 90 = 4,500$$

$$500 \times 90 = 45,000$$

and so on.

To multiply:

- a. Find the product of nonzero digits.
- b. Identify the total number of zeros on both factors.
- c. Append the total number of zeros after the product from a.

Multiply: $20 \times 34 \times 5$

First, multiply 20 and 5 and then multiply the product by 34.

$$\text{i.e. } 34 \times (20 \times 5) = 34 \times 100 = 3,400$$

Exercise

1. Multiply mentally by using patterns and properties.

a) $5 \times 7 =$ _____

$50 \times 7 =$ _____

$500 \times 7 =$ _____

$5,000 \times 7 =$ _____

b) $6 \times 8 =$ _____

$6 \times 80 =$ _____

$6 \times 800 =$ _____

$6 \times 8,000 =$ _____

c) $4 \times 90 =$ _____

$40 \times 90 =$ _____

$400 \times 90 =$ _____

$4,000 \times 90 =$ _____

d) $30 \times 34 \times 3 =$

e) $40 \times 55 \times 5 =$

f) $80 \times 23 \times 5 =$

g) $60 \times 42 \times 5 =$

h) $10 \times 334 \times 4 =$

i) $500 \times 700 =$

j) $10 \times 774 \times 100 =$

k) $300 \times 40 \times 60 =$

Exercise

2. In multiplying 500×8 , Sara wrote 3 zeros. Why?

3. Rose counted 9 packets of stamps each hour. If each packet contains 600 stamps, how many stamps does she count in 5 hours?

4. Write the rule that is useful for calculating the product of 45,000 and 20,000.

5. Which of the following is equal to the solution of $40 \times 35 \times 25$?
 - a) $40 \times 35 \times 30$
 - b) $25 \times 40 \times 35$
 - c) $45 \times 30 \times 10$
 - d) $25 \times 50 \times 20$

6. If $x \times y = 49,000$; where x is a 2-digit multiple of 10 and y is a 3-digit multiple of 10. Find the values of x and y .

7. Brice walks 37 minutes to school and 43 minutes to get back home each day. How much time does he walk in 5 days?

Exercise

8. Find the missing part of each of the following equations.

a) $4000 \times 30 = \underline{\hspace{2cm}}$

b) $65 \times \underline{\hspace{2cm}} = 13,000$

c) $\underline{\hspace{2cm}} \times 40,000 = 1,000,000$

d) $\underline{\hspace{2cm}} \times 23 \times 5 = 23,000$

e) $\underline{\hspace{2cm}} \times 25 = 20,000$

f) $\underline{\hspace{2cm}} \times (50 \times 7) = 7,000$

9. Kevin spends \$700 each month for clothing. How much does he spend in 3 years?

10. Find the multiple of 35, 5, and 40 by using the associative property of multiplication.

11. Explain why the product of 48 and 30,000 is always the same as the product of 4,800 and 300.

Example

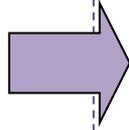
Estimate the product.
 486×57

First, round 486 to nearest hundred
= 500.

Then round 57 to the
nearest tenth = 60.

Then find product.
 $500 \times 60 = 30,000$

So, the estimation is 30,000.



Here, the estimation of the both factors is greater. So, the actual product of the 486×57 is less than the 30,000.

So, the estimation is an over estimation of the exact answer.
i.e. 30,000 is over estimation.

If the rounding of each factor is less than the each factor, then the estimation is under estimation.

Exercise

1. Estimate the product of the following.

a) 76×17 _____	b) 7×46 _____	c) 57×27 _____
d) 23×62 _____	e) 416×33 _____	f) 178×48 _____
g) 543×21 _____	h) 6×917 _____	i) 93×617 _____
j) $11 \times 12 \times 23$ _____	k) 61×123 _____	l) 99×777 _____

Exercise

2. Lara estimated the product of 456 and 7 by rounding. Her estimation problem became 500×7 . The estimated product was then 3,500. Eric estimated the product by using compatible numbers as 450×7 . His estimate was 3,150. If the actual product is 3,192; which method gave an estimate closer to the actual product?

3. Why do we round numbers to the nearest hundreds and tens to estimate the product rather than just solve the problem directly?

4. Estimate the product of 74 and 435. Is the estimate closer to 32,000 or 35,000?

5. Frankie has \$450. She spends \$32 each day. Will she have enough money for 2 weeks? Estimate to find out.

6. Kelly wants to save about \$5,600 in 8 months. If she saves \$715 each month, will she be able to save the \$5,600 in eight months?

7. Find the difference in the estimates of 567×55 by first rounding 55 to 50 and then rounding the 55 to 60.

Exercise

8. A disc can hold the 761 images. How many images can 23 discs hold?
9. Estimate the product of 872 and 58. Is the estimate overestimation or underestimation?
10. Robert set a world record by holding 21 tennis balls in a single palm. If the weight of each ball is 57 grams, estimate the approximate weight of the all the tennis balls he held.
11. Which of the following is a closer estimate of 47×24 ?
- a) 40×20 b) 47×20 c) 50×20 d) 50×30
12. The cost of a color television is \$685. Ray has \$14,000. If he wants to buy 18 televisions, will he have enough money to buy 18 televisions at the same price?

Example

The capacity of a water tank is 345 liters.
How many liters of water can 7 tanks contain?

Partial Product Method

$$\begin{array}{r} 345 \\ \times 7 \\ \hline 35 \\ 280 \\ + 2,100 \\ \hline 2,415 \end{array}$$

Here, 35, 280, and 2,100 are partial products. So, this is partial product method. We add the partial products to find product.

Regrouping Method

$$\begin{array}{r} 3 \\ 345 \\ \times 7 \\ \hline 5 \end{array}$$

First, $7 \times 5 = 35$
Regroup 35 to 3
tens and 5 ones.

$$\begin{array}{r} 3 \\ 345 \\ \times 7 \\ \hline 15 \end{array}$$

$7 \times 4 = 28$ tens and
add regrouped 3 tens.
 $28 + 3 = 31$ tens,
regroup 31 tens as 3
hundreds and 1 ten.

$$\begin{array}{r} 345 \\ \times 7 \\ \hline 2,415 \end{array}$$

$7 \times 3 = 21$ hundreds
and add regrouped 3
hundreds. $21 + 3 = 24$
hundreds,
 24 hundreds = 2
thousands and 4
hundreds

So, 7 tanks contain 2,415 liters of water in all.

Exercise

1. Multiply each. Check to see if your answer is reasonable by estimating.

a) $\begin{array}{r} 27 \\ \times 9 \\ \hline \end{array}$

b) $\begin{array}{r} 78 \\ \times 6 \\ \hline \end{array}$

c) $\begin{array}{r} 89 \\ \times 7 \\ \hline \end{array}$

d) $\begin{array}{r} 49 \\ \times 8 \\ \hline \end{array}$

e) $\begin{array}{r} 249 \\ \times 6 \\ \hline \end{array}$

f) $\begin{array}{r} 754 \\ \times 3 \\ \hline \end{array}$

g) $\begin{array}{r} 363 \\ \times 4 \\ \hline \end{array}$

h) $\begin{array}{r} 139 \\ \times 5 \\ \hline \end{array}$

i) 372×6

j) 534×7

k) 614×8

l) 111×9

m) 659×3

n) 412×4

o) 999×2

p) 407×8

q) 771×6

r) 483×5

s) 99×9

t) 981×2

Exercise

- Why does the actual product of 27 and 54 lie between 1,000 and 1,800?
- The capacity of a memory stick is 987 MB. What will be the capacity of 8 memory stick?
- Harry saves \$879 each month. How much will he save in 9 months?
- The universal weigh of a cricket ball is 156 grams. What will be the total weight of 7 cricket balls?
- The length of the largest and longest snake in the world is 975 centimeters. What will be the total length of 6 of these snakes?

Exercise

7. Find the product of the following problems.

a)	b)	c)	d)	e)	f)
923	8,794	7,891	7,783	9,590	9,007
$\times 9$	$\times 8$	$\times 7$	$\times 9$	$\times 6$	$\times 5$

8. 23 boys and 22 girls are going to tour. If each of them spent \$11 for transportation and \$9 for snacks, how much money did they spend for snacks?
9. The price of each box of dolls is \$758. Kara has to buy 9 boxes of dolls. How much money does she need to buy 9 boxes of dolls?
10. What will be the total number of tourist arrivals in 8 months if each month exactly 2,341 tourists arrive?
11. If a librarian adds 4,325 books to the library, each year, how many books are added in 7 years?

Example

The cost for John to attempt a test is \$45.

If he has to attempt 26 tests, how much money does he need?

$$\begin{array}{r} 45 \\ \times 26 \\ \hline 270 \end{array}$$

Multiply the ones and regroup.

5×6 ones = 30 ones = 3 tens
and 0 ones

6×4 tens = 24 tens,
add regrouped 3 tens.

24 tens + 3 tens = 27 tens

$$\begin{array}{r} 45 \\ \times 26 \\ \hline 270 \\ 900 \end{array}$$

20×5 ones = 100 ones Regroup

10 tens and

20×4 tens = 80 tens

10 tens + 80 tens = 90 tens =

900

Then add the partial
Products.

$$\begin{array}{r} 45 \\ \times 26 \\ \hline 270 \\ + 900 \\ \hline 1,170 \end{array}$$

So, John requires \$1,170
in total.

Exercise

1. Find the product of each of the following.

a)
$$\begin{array}{r} 29 \\ \times 16 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 54 \\ \times 32 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 39 \\ \times 22 \\ \hline \end{array}$$

d)
$$\begin{array}{r} 55 \\ \times 33 \\ \hline \end{array}$$

e)
$$\begin{array}{r} 59 \\ \times 45 \\ \hline \end{array}$$

f)
$$\begin{array}{r} 65 \\ \times 12 \\ \hline \end{array}$$

g)
$$\begin{array}{r} 83 \\ \times 34 \\ \hline \end{array}$$

h)
$$\begin{array}{r} 98 \\ \times 22 \\ \hline \end{array}$$

i)
$$\begin{array}{r} 54 \\ \times 22 \\ \hline \end{array}$$

j)
$$\begin{array}{r} 75 \\ \times 43 \\ \hline \end{array}$$

k)
$$\begin{array}{r} 14 \\ \times 19 \\ \hline \end{array}$$

l)
$$\begin{array}{r} 56 \\ \times 33 \\ \hline \end{array}$$

m)
$$\begin{array}{r} 67 \\ \times 42 \\ \hline \end{array}$$

n)
$$\begin{array}{r} 89 \\ \times 34 \\ \hline \end{array}$$

o)
$$\begin{array}{r} 99 \\ \times 51 \\ \hline \end{array}$$

p)
$$\begin{array}{r} 67 \\ \times 12 \\ \hline \end{array}$$

Exercise

2. A school uses 78 buses to transport students. If the capacity of each bus is 24 seats, how many students can ride the buses at one time?
3. Lily uses 24 packets of sugar each week in her tea. If each packet contains 35 grams of sugar, how much sugar does she use in a week?
4. David bought a bicycle for \$1,020. He can pay \$64 per month. Will he pay for his bicycle in 16 months?
5. Find the product in each of the following problems. Check your answer by estimating.
- | | | | |
|-------------------|-------------------|-------------------|-------------------|
| a) 44×22 | b) 34×21 | c) 34×12 | d) 52×19 |
| e) 16×59 | f) 72×18 | g) 99×11 | h) 71×55 |
| i) 87×23 | j) 78×33 | k) 92×13 | l) 62×58 |

Exercise

6. The table on the right shows the cost of John for different items per week.

a) How much money does he spend in 34 weeks for rent?

Items	Cost
Rent	\$46
Clothing	\$32
Travel	\$68
Food	\$97

b) How much money does he spend for food in 32 weeks?

c) How much money does he spend for travel in 49 weeks?

d) How much money does he spend in 3 months for everything?

7. If the cost of a book is \$34, how much money do you need to buy 34 books?

8. What is the total number of students in 23 schools up to 10th grade, if there are 99 students in each school altogether?

Example

Multiply: 252×36 Multiply by ones and
regroup if necessary.

$$\begin{array}{r} 31 \\ 252 \\ \times 36 \\ \hline 1,512 \end{array}$$

Multiply by tens and
regroup if necessary.

$$\begin{array}{r} 1 \\ \cancel{3}1 \\ 252 \\ \times 36 \\ \hline 1,512 \\ 7,560 \end{array}$$

Find the sum of partial
products.

$$\begin{array}{r} 1 \\ \cancel{3}1 \\ 252 \\ \times 36 \\ \hline 1,512 \\ + 7,560 \\ \hline 9,072 \end{array}$$

So, $252 \times 36 = 9,072$

Exercise

1. Multiply each of the following problems.

a)
$$\begin{array}{r} 425 \\ \times 26 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 544 \\ \times 32 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 639 \\ \times 42 \\ \hline \end{array}$$

d)
$$\begin{array}{r} 155 \\ \times 13 \\ \hline \end{array}$$

e)
$$\begin{array}{r} 890 \\ \times 45 \\ \hline \end{array}$$

f)
$$\begin{array}{r} 645 \\ \times 32 \\ \hline \end{array}$$

g)
$$\begin{array}{r} 283 \\ \times 19 \\ \hline \end{array}$$

h)
$$\begin{array}{r} 398 \\ \times 51 \\ \hline \end{array}$$

i)
$$\begin{array}{r} 754 \\ \times 44 \\ \hline \end{array}$$

j)
$$\begin{array}{r} 874 \\ \times 33 \\ \hline \end{array}$$

k)
$$\begin{array}{r} 174 \\ \times 29 \\ \hline \end{array}$$

l)
$$\begin{array}{r} 986 \\ \times 73 \\ \hline \end{array}$$

Exercise

2. Compute the multiple of the following.

a) 453×24

b) 123×98

c) 234×87

d) 345×76

e) 456×65

f) 567×54

g) 678×43

h) 789×32

i) 890×21

j) 901×34

k) 248×45

l) 562×58

3. There are 365 days in a year. Tina is 22 years old. How many days old is she?

4. The length of a desk of a school is 123 centimeters. What is the length of 34 desks?

Exercise

5. Buses were reserved for the big field trip. If each bus holds 24 students, how many students would 135 buses hold?
6. It costs each person \$195 admission fee to enter into a certain club. How much money will a group of 45 people need to be admitted to the club?
7. A crate of apples contains approximately 456 apples. If Pinky orders 24 crates of apples for a party, how many apples does she order?
8. The table on the right shows the different state highways and their lengths. Use the table to answer the following questions.

- a) How much time does Eric need to travel H S 16, if he walks 1 kilometer in 13 minutes?

Highway	Length
H S 6	467 km
H S 16	872 km
H S 31	241 km
H S 22	172 km

- b) If the cost per kilometer journey is \$0.47, how much money does Louis need to travel H S 6?

Exercise

1. Which equation shows the identity property of multiplication?

a) $5 \times (5 \times 7) = (5 \times 5) \times 7$

b) $6 \times (1 \times 0) = 0$

c) $(5 \times 7) \times 1 = 35$

d) $8 \times 5 \times 6 = 240$

2. Use the appropriate multiplication property to find each of the products of the following.

a) $8 \times 5 \times 9$

b) $7 \times 6 \times 5$

c) $9 \times 5 \times 9$

d) $7 \times 7 \times 7$

3. Complete the following patterns.

a)
 $230 \times 200 =$
 $2,300 \times 200 =$

b)
 $33 \times 3 =$
 $330 \times 30 =$

c)
 $25 \times 4 =$
 $250 \times 40 =$

d)
 $91 \times 5 =$
 $910 \times 50 =$

Exercise

10. If the price of a liter of kerosene is \$0.34, what will be the total cost of 78 liters of kerosene?

11. The table on the right shows the price of different electric items. Use the table and answer the following questions.

Items	Price
Computer	\$322
Freezer	\$1,232
Television	\$174
Laptop	\$497

a) If a shopkeeper bought 56 televisions, how much money did he pay for all the televisions?

b) Clark has to buy 45 computers for school. He has \$14,500. Will he be able to buy them all with this money?

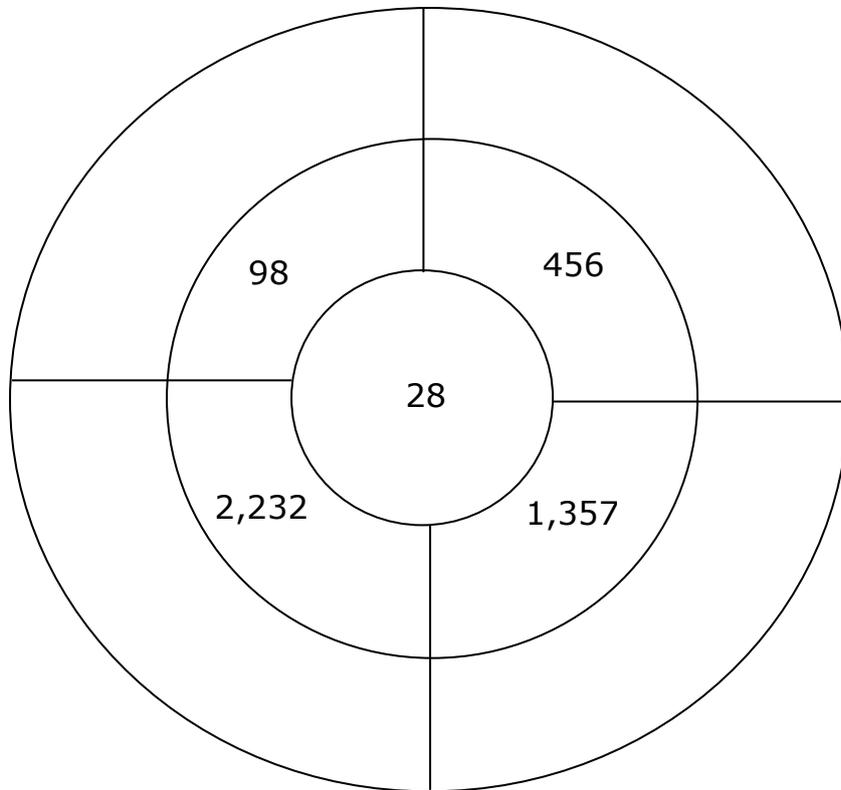
c) If each freezer contains 67 liters, what is the capacity of 45 freezers?

d) What is the cost of 9 freezers and 11 televisions?

e) If a shopkeeper sold 2 computers, 1 laptop, 1 freezer, and 5 televisions; how much has he earned?

Exercise

12. Multiply the numbers in the middle circle by the number at the center and write that product in the outer circle.



13. If the cost of a liter of water is \$0.56, what will be the total cost of a tank of water with a capacity of 2,342 liters? Express the amount in dollars.
14. Find the total weight of 245 footballs in pounds, if the weight of each ball is 14 oz? (Hints: 1 lb = 16 oz)

Congratulations!

You have finished a lesson. You should be very proud of yourself.

Now it is time to progress to the next lesson.

Your next assignment is notated by a green arrow.

Lesson 1 Numeration Review

Lesson 2 Add and Subtract Whole Numbers and Decimals Part I

Lesson 3 Add and Subtract Whole Numbers and Decimals Part II

Lesson 4 Multiplying Whole Numbers Part I

Review 1 Review of Lesson 1, 2, 3, and 4



Unit R1.1 Numeration Review

Unit R1.2 Add and Subtract Whole Numbers and Decimals Part I

Unit R1.3 Add and Subtract Whole Numbers and Decimals Part II

Unit R1.4 Multiplying Whole Numbers Part I

Lesson 5 Multiplying Whole Numbers Part II

Lesson 6 Division: 1-Digit Divisor

Lesson 7 Division: 2-Digit Divisor

Lesson 8 Variables and Expressions

Review 2 Review of Lesson 5, 6, 7, and 8

Lesson 9 Multiplying and Dividing Decimals Part I

Lesson 10 Multiplying and Dividing Decimals Part II

Lesson 11 Shapes

Lesson 12 Fractions Part I

Review 3 Review of Lesson 9, 10, 11, and 12

Lesson 13 Fractions Part II

Lesson 14 Fraction and Mixed Numbers Operation Part I

Lesson 15 Fraction and Mixed Numbers Operation Part II

Lesson 16 Perimeter and Area

Review 4 Review of Lesson 13, 14, 15, and 16

Lesson 17 Shapes and Solids Part I

Lesson 18 Shapes and Solids Part II

Lesson 19 Measurement Units, Time, and Temperature Part I

Lesson 20 Measurement Units, Time, and Temperature Part II

Review 5 Review of Lesson 17, 18, 19, and 20

Lesson 21 Solving Equations

Lesson 22 Ratio, Percent, and Proportion

Lesson 23 Equations and Graphs Part I

Lesson 24 Equations and Graphs Part II

Review 6 Review of Lesson 21, 22, 23, and 24

Lesson 25 Graphs and Data

Lesson 26 Transformation, Congruence, and Symmetry

Lesson 27 Probability

Review of Lesson 1 to 14

Review of Lesson 15 to 27

Unit 4.1

- | | | | |
|------------------|-------------------------------------|--------------------|------------------|
| 1. a) zero | b) commutative | c) associative | d) identity |
| e) associative | f) commutative | g) identity | h) associative |
| i) zero | j) commutative | k) identity | l) commutative |
| m) zero | n) commutative | o) associative | |
| 3. a) 0; zero | b) 114; commutative | c) 90; associative | d) 357; identity |
| e) 105; identity | f) 0; zero | | |
| 4. a) 0 | b) 22 | c) 1 | d) 11 |
| e) 35 | f) 20 | 5. 1,825 | 6. 11,800 |
| 7. c | 8. $(42 \times 7) \times 9 = 2,646$ | 9. 20,100 | 11. 27 |

Unit 4.2

- | | |
|--------------------------------|--|
| 1. a) 35; 350; 3,500; 35,000 | b) 48; 480; 4,800; 48,000 |
| c) 360; 3,600; 36,000; 360,000 | d) 3,060 |
| f) 9,200 | e) 11,000 |
| g) 12,600 | h) 13,360 |
| i) 774,000 | j) 720,000 |
| 2. yes; 4,000 contain, 3 zero | |
| 3. 27,000 | 4. 45×2 and then put total zero |
| 5. b | |
| 6. $x=70$; $y=700$ | 7. 400 minutes |
| 8. a) 120,000 | b) 200 |
| c) 25 | d) 200 |
| e) 800 | f) 20 |
| 9. \$25,200 | 10. 7,000 |
| 11. same number of zero | |

Unit 4.3

- | | | | |
|-----------------------------|-----------------|-------------------------------|-----------|
| 1. a) 1,600 | b) 350 | c) 1,800 | d) 1,200 |
| e) 12,000 | f) 10,000 | g) 10,000 | h) 5,400 |
| i) 54,000 | j) 2,000 | k) 6,000 | l) 80,000 |
| 2. compatible number method | | 4. 28,000 closer to 32,000 | |
| 5. yes; about \$420 | 6. yes | 7. 30,000 and 36,000 is 6,000 | |
| 8. about 16,000 | 9. 54,000; over | 10. 1,200 gm | 11. c |
| 12. yes | | | |

Unit 4.4

- | | | | |
|-------------|------------|-------------|-------------|
| 1. a) 243 | b) 468 | c) 623 | d) 392 |
| e) 1,494 | f) 2,262 | g) 1,452 | h) 695 |
| i) 2,232 | j) 3,738 | k) 4,912 | l) 999 |
| m) 1,977 | n) 1,648 | o) 1,998 | p) 3,256 |
| q) 4,626 | r) 2,415 | s) 891 | t) 1,962 |
| 3. 7,896 MB | 4. \$7,911 | 5. 1,092 gm | 6. 5,850 cm |
| 7. a) 8,307 | b) 70,352 | c) 55,237 | d) 70,047 |
| e) 45,035 | 8. \$900 | 9. \$6,822 | 10. 18,728 |
| 11. 30,275 | | | |

Unit 4.5

- | | | | |
|---------------|--------------|------------|------------|
| 1. a) 464 | b) 1,872 | c) 858 | d) 1,815 |
| e) 2,655 | f) 780 | g) 2,822 | h) 2,156 |
| i) 1,188 | j) 3,225 | k) 266 | l) 1,848 |
| m) 2,814 | n) 3,026 | o) 5,049 | p) 804 |
| 2. 1,872 | 3. 840 grams | 4. yes | |
| 5. a) 968 | b) 714 | c) 408 | d) 988 |
| e) 944 | f) 1,296 | g) 1,089 | h) 3,905 |
| i) 2,001 | j) 2,574 | k) 1,196 | l) 3,596 |
| 6. a) \$1,564 | b) \$3,104 | c) \$3,332 | d) \$2,916 |
| 7. \$1,156 | | | |
| 8. 2,277 | | | |

Unit 4.6

- | | | | |
|--------------|--------------|-------------|------------|
| 1. a) 11,050 | b) 17,408 | c) 26,838 | d) 2,015 |
| e) 40,050 | f) 20,640 | g) 5,377 | h) 20,298 |
| i) 33,176 | j) 28,842 | k) 5,046 | l) 71,978 |
| 2. a) 10,872 | b) 12,054 | c) 20,358 | d) 26,220 |
| e) 29,640 | f) 30,618 | g) 29,154 | h) 25,248 |
| i) 18,690 | j) 30,634 | k) 11,160 | l) 32,596 |
| 3. 8,030 | 4. 4,182 | 5. 3,240 | 6. \$8,775 |
| 7. 10,944 | 8. a) 11,336 | b) \$219.49 | |

Unit 4.7

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|-----------------------------------|-----------------------|--------------------------------------|--------------|
| 1. c | 2. a) 360 | b) 210 | c) 405 |
| d) 343 | 3. a) 46,000; 460,000 | | b) 99; 9,900 |
| c) 100; 10,000 | d) 455; 45,500 | | |
| 4. 14,700 | 5. d | 6. a) 2,000,000 → over estimate | |
| b) 5,000,000 → under estimate | | 7. 23,946; (20,000 → under estimate) | |
| 8. b | 9. a) 3,366 | b) 6,942 | c) 5,382 |
| d) 3,835 | 10. \$26.52 | 11. a) \$9,744 | b) yes |
| c) 3,015 | d) \$130,002 | e) \$3,243 | |
| 12. 2,744; 12,768; 37,996; 62,496 | | | |
| 13. \$1311.52 | 14. 214.375 lb | | |