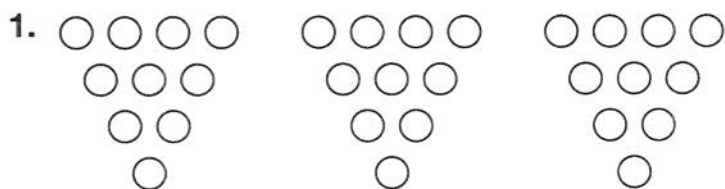


Name _____

Meanings for Multiplication

P 3-1

Write an addition sentence and a multiplication sentence for the picture.



Write a multiplication sentence for each addition sentence.

2. $4 + 4 + 4 + 4 = 16$ _____

3. $10 + 10 + 10 + 10 + 10 + 10 = 60$ _____

4. **Number Sense** How could you use multiplication to find $7 + 7 + 7$?

5. A classroom desk has 4 legs. How many legs do 5 desks have altogether? _____

6. Danielle planted 3 seeds in 6 different pots. How many seeds did she plant? _____

Test Prep

7. Which is the multiplication sentence for $2 + 2 + 2 + 2$?

A. $4 \times 4 = 16$

B. $2 \times 2 = 4$

C. $2 \times 4 = 8$

D. $2 \times 6 = 12$

8. **Writing in Math** Explain how you can use multiplication to find $2 + 2 + 2 + 2$.

Name _____

Patterns in Multiplying by 0, 1, 2, 5, and 9

P 3-2

1.
$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 5 \\ \times 0 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

9. $9 \times 6 =$ _____

10. $7 \times 2 =$ _____

11. $0 \times 0 =$ _____

Algebra Find the missing number. Tell which property can help you.

12. _____ $\times 9 = 0$

13. $1 \times$ _____ $= 4$

14. A package of baseball cards includes 5 cards. How many baseball cards are in 5 packages?
- _____

Test Prep

15. What is the value of the missing number?

$\square \times 9 = 36$

A. 6

B. 4

C. 3

D. 2

16. **Writing in Math** Milton needs to find the product of two numbers. One of the numbers is 9. The answer also needs to be 9. How will he solve this problem? Explain.
- _____
- _____
- _____

Name _____

Using Known Facts to Find Unknown Facts

P 3-3

Use breaking apart to find each product.

1.
$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

5. $4 \times 3 =$ _____

6. $9 \times 3 =$ _____

7. $8 \times 5 =$ _____

8. $3 \times 6 =$ _____

9. $6 \times 7 =$ _____

10. $7 \times 9 =$ _____

11. **Number Sense** Sara traced circle stencils for her project. She needs 7 rows of 9 circle stencils. She thought that 7 rows of 9 is the same as 3 rows of 9 and 2 rows of 9. Is this correct?

Reasoning Compare. Use $<$, $>$, or $=$ to fill in each blank \bigcirc .

12. $6 \times 9 \bigcirc 9 \times 6$

13. $9 \times 4 \bigcirc 6 \times 6$

14. $8 \times 8 \bigcirc 7 \times 9$

Test Prep

15. Which of the following is equal to the product of 3×3 ?

A. 9×1

B. 3×1

C. 4×2

D. 6×3

16. **Writing in Math** Explain how the three multiplication sentences are related.

12×2

8×3

6×4

Name _____

Multiplying by 10, 11, and 12

P 3-4

1. $4 \times 10 =$ _____ 2. $12 \times 2 =$ _____ 3. $10 \times 6 =$ _____
4. $11 \times 1 =$ _____ 5. $4 \times 12 =$ _____ 6. $8 \times 11 =$ _____
7. $9 \times 10 =$ _____ 8. $12 \times 3 =$ _____ 9. $10 \times 7 =$ _____
10. $11 \times 5 =$ _____ 11. $10 \times 5 =$ _____ 12. $6 \times 12 =$ _____

13. **Number Sense** Beatrice multiplied 10×9 . She quickly found the answer by placing a 0 behind the 9 to get an answer of 90. Is this reasonable?

There are 12 months in 1 year. How many months are in

14. 2 years? _____
15. 3 years? _____
16. 5 years? _____

17. In the classroom there are 5 round tables. There are 4 students sitting at each table. How many students are sitting at the tables altogether?

Test Prep

18. How much money is 12 dimes?

A. \$0.60

B. \$1.00

C. \$1.20

D. \$2.00

19. **Writing in Math** Explain how to find 7×11 .

Name _____

PROBLEM-SOLVING STRATEGY

P 3-5

Make a Table

Complete the table to solve the problem. Write the answer in a complete sentence.

1. The grocery store is having a sale on canned vegetables. If you buy 1 can, you get 2 free. How many cans do you need to buy to get 16 cans free?

Cans purchased	1	2	3	4	5	6	7	8	9
Free cans	2	4							

2. Grandma wanted to help Jennifer learn to multiply. On the first day of Jennifer's visit, Grandma gave her 2 charms for her charm bracelet. On the second day, Grandma gave Jennifer 4 charms. On the third day, she gave Jennifer 8 charms. How many charms did Grandma give Jennifer on the sixth day of her visit?

Day	1	2	3	4	5	6	7
Charms	2	4	8				

For Exercise 3, make a table. Use it to find the answer.

3. Juan decided to raise money for his camping trip by selling lemonade. He charged \$1.00 for 1 glass, \$1.25 for 2 glasses, \$1.50 for 3 glasses, and so on. How much money did Juan charge for 5 glasses of lemonade?

Name _____

Meanings for Division

P 3-6

Draw pictures to solve each problem.

1. There are 12 small gift bags. Each bag can hold 1 toy and some stickers. There are 36 stickers. If an equal number of stickers is put in each bag, how many stickers will be in each bag?

2. One egg carton holds 12 eggs. How many cartons are you able to fill with 60 eggs?

3. There are 21 students in Mr. Tentler's class. The students divided themselves evenly into 3 groups. How many students are in each group?

Test Prep

4. Calvin read an 18-page chapter in his social studies book in 2 hours. If he read the same number of pages each hour, how many pages did he read per hour?

A. 3 pages B. 6 pages C. 9 pages D. 12 pages

5. **Writing in Math** The class is planning a party. The pizza restaurant cuts each pizza into 8 slices. There are 32 students. How many pizzas does the class need to order for each student to have a slice? Explain.

Name _____

Relating Multiplication and Division

P 3-7

Complete each fact family.

1. $7 \times \underline{\hspace{2cm}} = 42$

$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 42$

$42 \div 6 = \underline{\hspace{2cm}}$

$42 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

2. $9 \times \underline{\hspace{2cm}} = 36$

$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 36$

$36 \div 4 = \underline{\hspace{2cm}}$

$36 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Write a fact family for each set of numbers.

3. 6, 3, 18

4. 5, 5, 25

5. **Reasoning** Why does the fact family for 81 and 9 have only two number sentences?

Test Prep

6. Which number sentence completes the fact family?

$9 \times 6 = 54$

$54 \div 9 = 6$

$54 \div 6 = 9$

A. $9 \times 9 = 81$

B. $6 \times 9 = 54$

C. $6 \times 6 = 36$

D. $8 \times 6 = 48$

7. **Writing in Math** Find two ways to divide 16 evenly. Explain.

Name _____

Division Facts

P 3-8

1. $9 \div 3 =$ _____ 2. $21 \div 7 =$ _____ 3. $30 \div 5 =$ _____

4. $56 \div 8 =$ _____ 5. $72 \div 9 =$ _____ 6. $48 \div 8 =$ _____

7. $9 \overline{)81}$ _____ 8. $6 \overline{)54}$ _____ 9. $7 \overline{)49}$ _____ 10. $3 \overline{)27}$ _____

11. **Reasoning** If $44 \div 4 = 11$, what is $44 \div 11$? Explain.

12. Taylor bought a CD for \$10. How many CDs can she buy for \$40?

13. Christian placed an order with the book club. He purchased 2 books for \$3 each and a stamp-making kit that costs \$5. What was his total?

Test Prep

14. Which is the quotient of $48 \div 6$?

A. 8

B. 6

C. 4

D. 9

15. **Writing in Math** If $9 \times 8 = 72$, then 72 divided by 8 is what number? Explain how you know without actually finding the quotient.

Name _____

Special Quotients

P 3-9

1. $0 \div 10 =$ _____ 2. $7 \div 1 =$ _____ 3. $8 \div 8 =$ _____
4. $9 \div 9 =$ _____ 5. $0 \div 5 =$ _____ 6. $5 \div 1 =$ _____
7. $1 \overline{)4}$ _____ 8. $8 \overline{)0}$ _____ 9. $3 \overline{)3}$ _____ 10. $1 \overline{)6}$ _____

11. **Number Sense** If $x \div 9 = 1$, how do you know what x is? Explain.

12. Kenneth has 22 math problems to do for homework. He has 12 problems done. How many more problems does he have left? If he completes 1 problem every minute, how many more minutes does he have to work?

13. There are 8 people who would like to share a box of granola bars that contains 8 bars. How many granola bars does each person get if they share equally?

Test Prep

14. Which is the quotient of $20 \div 20$?

A. 20 B. 2 C. 1 D. 0

15. **Writing in Math** Write a rule for the following number sentence: $0 \div 7 = 0$.

Name _____

Multiplication and Division Stories

P 3-10

Reasoning Write a multiplication or division story for each number fact. Solve.

1. $12 \div 3 =$ _____

2. $4 \times 5 =$ _____

3. $50 \div 10 =$ _____

4. $3 \times 9 =$ _____

Use the data in the table to write a multiplication story for the number fact. Solve.

5. $2 \times 6 =$ _____

First Aid Kit

Supply	Number in Kit
Bandages	4
Cleanser pads	6
Cotton balls	12

Test Prep

6. Which is the quotient of $28 \div 7$?

A. 14

B. 9

C. 6

D. 4

7. **Writing in Math** Write a division story for 12 and 3.

Name _____

PROBLEM-SOLVING SKILL

P 3-11

Multiple-Step Problems

Write and answer the hidden question or questions.
Then solve the problem. Write your answer in a
complete sentence.

1. Mario and his family went to the county fair. They bought 2 adult passes and 3 children's passes. What was the total cost for the family?

County Fair Admission	
Adults	\$5.00
Students	\$3.00
Children	\$2.00

2. A bus has 12 rows with 1 seat in each row on one side and 12 rows with 2 seats in each row on the other side. How many seats does the bus have altogether?

3. **Writing in Math** Write a problem about going to the laundromat that has a hidden question. A single load of laundry costs \$2 and a double load costs \$4. Solve your problem.

Name _____

Writing and Evaluating Expressions

P 3-12

Evaluate each expression for $b = 6$.

1. $6b =$ _____ 2. $\frac{42}{b} =$ _____ 3. $5b =$ _____ 4. $\frac{b}{3} =$ _____

Evaluate each expression for $c = 4$.

5. $\frac{c}{2} =$ _____ 6. $12c$ _____ 7. $8c$ _____ 8. $\frac{16}{c} =$ _____

Evaluate each expression.

9. $(84 \div z) - 6$ for $z = 7$ _____ 10. $(48 \div h) \times 2$ for $h = 8$ _____

Draw a picture that shows the main idea. Then write and evaluate an expression to solve the problem.

11. Diedre helps read to the kindergarten class. She is assigned to q students. She reads for 10 min with each student. Write an expression to represent the total number of minutes Diedre reads with kindergarten students. Evaluate the expression for $q = 5$.

Test Prep

12. Solve.

$$24 \div n = 12$$

A. $n = 5$

B. $n = 4$

C. $n = 3$

D. $n = 2$

13. **Writing in Math** Keith wrote the expression $10d$ to represent the number of dimes in d dollars. Is Keith's expression correct? Explain.

Name _____

Find a Rule

P 3-13

Complete each table. Write the rule.

1.

In	7	6	5	4	3	n
Out	21	18	15	12		

2.

In	5	10	15	20	25	n
Out	1	2	3	4		

In one week, Lyle read 40 pages in his book and his dad gave him 5 stickers. The next week, Lyle read 16 pages and his dad gave him 2 stickers. The third week, Lyle read 56 pages and his dad gave him 7 stickers.

Pages	40	16	56	
Stickers	5	2	7	4

3. Complete the table to show how many pages Lyle had to read to receive 4 stickers from his dad.

4. Write a rule for the table.

Test Prep

5. What is the rule for the table at the right?

In	2	4	6	8	10
Out	14	28	42	56	70

- A. Divide by 7 B. Multiply by 7 C. Divide by 8 D. Multiply by 8

6. **Writing in Math** Complete the table to represent the pattern in figures. Write a rule.

Figure	1	2	3
Circles			



Figure 1



Figure 2

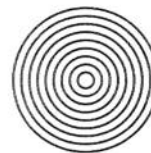


Figure 3

Name _____

Solving Multiplication and Division Equations

P 3-14

Solve each equation by testing these values for y : 3, 4, 6, and 12.

1. $5 \times y = 15$ _____

2. $\frac{24}{y} = 4$ _____

Solve each equation by testing these values for a : 7, 8, 77, and 80.

3. $14 \div a = 2$ _____

4. $7 \times 11 = a$ _____

5. John's teacher made 20 First Day of School Kits. There were only 4 kits of each color. Solve the equation $4k = 20$ by testing these values for k : 2, 3, 4, and 5, to find how many different colors John's teacher used for the kits.
- _____

Test Prep

6. Which is the solution for $n \div 6 = 8$?

A. 8

B. 16

C. 32

D. 48

7. **Writing in Math** Draw a picture and write an expression you could use to find the number of magazines in m rows if there are 7 magazines in each row. Use your expression to find the number of magazines in 3 rows.

Dr. Seuss' Books

Dr. Seuss was one of America's most famous authors and illustrators of childrens' books. His real name was Theodore Geisel. Geisel was born in 1904 in Springfield, Massachusetts. Geisel's first job was drawing cartoon advertisements for a company that made bug spray. Many of the cartoon characters Geisel drew for that job turned into the characters he used in his books.

1. Each Dr. Seuss hardcover book costs about \$9.
How much would you pay if you bought 5 books? _____
2. Oscar found a special sale on Dr. Seuss books.
Each book cost the same price. He paid \$36 for
6 books. How much did he pay for each book? _____

Mrs. Melvin, a librarian, found a special on-line offer for Dr. Seuss books. Each book cost \$2.

3. How much did Mrs. Melvin pay for 6 books? _____
4. If Mrs. Melvin paid \$20 for n books, how many
books did she order? _____

One of Dr. Seuss' most famous books is called *The Foot Book*.

5. There are 27 pages in this book. There are about
27 drawings. On the average, about how many
drawings are on each page?

6. A close study of this book shows that on 6 pages the
word *feet* appears 2 times. What is the total number
of times the word appears on those 6 pages? _____
7. On every 9th page of this book, the word *feet* appears
3 times. Since there are 27 pages in the book, how
many pages have the word *feet* written 3 times? _____