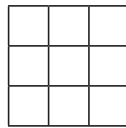
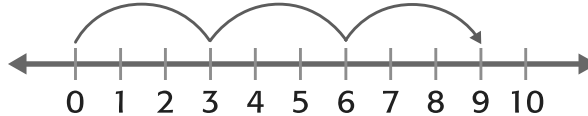


MY Homework**Lesson 1****Multiply by 3****Homework Helper**Need help? connectED.mcgraw-hill.com**Tyra has 3 posters on each of 3 walls in her bedroom.****How many posters does Tyra have in her room?****Find 3×3 .****One Way Use an array to model 3 rows of 3.**

The array shows that 3 rows of 3 equals 9.

Another Way Use a number line.The number line shows that 3 jumps of $3 = 9$.So, $3 \times 3 = 9$. You can also write it like this.

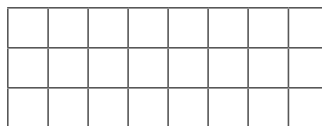
$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$

Tyra has 9 posters in her room.

Practice**Draw an array for each. Then write two multiplication sentences.****1. 3 rows of 8**

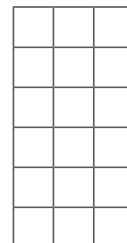
$3 \times 8 = 24$

$8 \times 3 = 24$

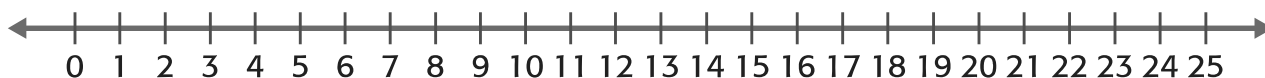
**2. 6 rows of 3**

$6 \times 3 = 18$

$3 \times 6 = 18$



Multiply. Use the number line to skip count if needed.



3. $5 \times 3 = \underline{15}$

4. $8 \times 3 = \underline{24}$

5. $7 \times 3 = \underline{21}$

6. $4 \times 3 = \underline{12}$

Algebra Find the unknown factor. Use the Commutative Property.

7. $\blacksquare \times 3 = 30$

8. $3 \times \blacksquare = 18$

$3 \times \blacksquare = 30$

$\blacksquare \times 3 = 18$

The unknown is 10.

The unknown is 6.



Problem Solving

Write a multiplication sentence with a symbol for the unknown for Exercises 9 and 10. Then solve.

9. A box of popcorn costs \$3 at the baseball game. The vendor sells 5 boxes to people in row 22. How much money did the vendor collect for the popcorn?

$5 \times \$3 = \blacksquare; \15

10. Gloria has a study guide for her math, social studies, and science classes. Each study guide is 7 pages. How many pages of study guides does Gloria have in all?

$3 \times 7 = \blacksquare; 21 \text{ pages}$

11. **PRACTICE** **Make Sense of Problems**

Meredith feeds her 3 dogs twice a day. How many times does she feed the dogs in 3 days?

18 times

My Work!

Test Practice

12. There are 3 rows of cars in the parking lot. Each row has 5 cars. How many cars are in the parking lot?

- (A) 18 cars (C) 12 cars
(B) 15 cars (D) 9 cars

Name _____

MY Homework

Lesson 2

Divide by 3

Homework Helper



Need help? connectED.mcgraw-hill.com

Chuck and his 2 brothers read 12 books about the solar system. Each boy read the same number of books. How many books did each boy read? Find the unknown quotient.

You need to find $12 \div 3$, or $3 \overline{)12}$.

Use the multiplication table.

1 Find row 3. Circle the divisor.

2 Move across row 3 to 12.
Circle the dividend.

3 Move straight up the column to 4.
Circle the quotient.

×	0	1	2	3	4	5	6
0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6
2	0	2	4	6	8	10	12
3	0	3	6	9	12	15	18
4	0	4	8	12	16	20	24
5	0	5	10	15	20	25	30

So, $12 \div 3 = 4$. Each boy read 4 books.

Practice

Algebra Use a related multiplication fact to find the unknown.

1. $30 \div 3 = \square$

$3 \times \underline{10} = 30$

The unknown is 10.

2. $18 \div 3 = \square$

$3 \times \underline{6} = 18$

The unknown is 6.

3. $15 \div 3 = \square$

$3 \times \underline{5} = 15$

The unknown is 5.

4. $21 \div 3 = \square$

$3 \times \underline{7} = 21$

The unknown is 7.

Use the multiplication table to divide.

5. $24 \div 3 = \underline{8}$

6. $9 \div 3 = \underline{3}$

7. $27 \div 3 = \underline{9}$

8. $3 \div 3 = \underline{1}$

9. $18 \div 3 = \underline{6}$

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100



Problem Solving

10. Alana mailed 6 letters in 3 different mailboxes. She put the same number of letters in each mailbox. How many letters did Alana put in each mailbox?

2 letters

11. **Mathematical PRACTICE 2 Use Number Sense** Ms. Banks divides 18 basketballs evenly among 3 bags. For class, she takes 2 basketballs from each bag. How many basketballs are left in one of the bags?

4 basketballs

My Work!

Test Practice

12. Elyse served herself and 2 friends 24 ounces of juice. She poured the same amount of juice in each glass. How many ounces of juice were in each glass?

- (A) 22 ounces (C) 8 ounces
(B) 12 ounces (D) 6 ounces

Name _____

MY Homework

Lesson 3

Hands On: Double a Known Fact

Homework Helper



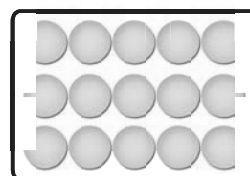
Need help? connectED.mcgraw-hill.com

Find 6×5 .

Decompose, or separate, the factor 6 into two equal addends of $3 + 3$. Then you can double the known fact, 3×5 .

1 Model the known fact, 3×5 .

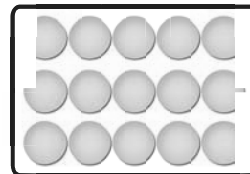
Use counters to make an array that shows 3 rows of 5.



$$3 \times 5 = 15$$

2 Double the known fact.

Make another array that shows 3 rows of 5.



$$3 \times 5 = 15$$

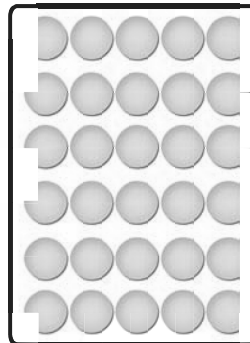
3 Find 6×5 .

Push the two arrays together into 6 rows of 5.

Add the products from the two arrays:

$$15 + 15 = 30$$

The combined arrays show $6 \times 5 = 30$.



$$6 \times 5 = 30$$

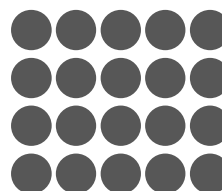
Practice

1. Draw counters to model a known fact that will help you find 4×5 . Draw the model two times.

$$4 \times 5 = \underline{20}$$

$$\text{Known fact: } 2 \times 5 = \underline{10}$$

$$\text{Double the product: } 10 + 10 = \underline{20}$$



Double the known fact. Write the product it helps you find.

2. $3 \times 7 = \underline{21}$

$3 \times 7 = \underline{21}$

$\underline{6} \times \underline{7} = \underline{42}$

4. $2 \times 6 = \underline{12}$

$2 \times 6 = \underline{12}$

$\underline{4} \times \underline{6} = \underline{24}$

3. $3 \times 3 = \underline{9}$

$3 \times 3 = \underline{9}$

$\underline{6} \times \underline{3} = \underline{18}$

5. $2 \times 9 = \underline{18}$

$2 \times 9 = \underline{18}$

$\underline{4} \times \underline{9} = \underline{36}$



Problem Solving


Double a known fact to solve.

6. Dr. Berry sees 3 patients every hour. If she works 8 hours, how many patients does she see?

$3 \times 4 = 12; 12 + 12 = 24$ patients

7. The Johnson twins and the Clayton twins went to the fair. Each child rode 5 rides. What is the total number of times all four children went on a ride?

$2 \times 5 = 10; 10 + 10 = 20$ times

8. **PRACTICE**  **Identify Structure** Vince drinks 4 large glasses of water each day. How many glasses of water does Vince drink in 7 days?

$2 \times 7 = 14; 14 + 14 = 28$ glasses

My Work!

Vocabulary Check



Choose the correct word(s) to complete each sentence.

known fact

decompose

9. One way to decompose the number 8 is to write it as $4 + 4$.

10. A fact that you have memorized is a known fact.

Name _____

MY Homework

Lesson 4

Multiply by 4

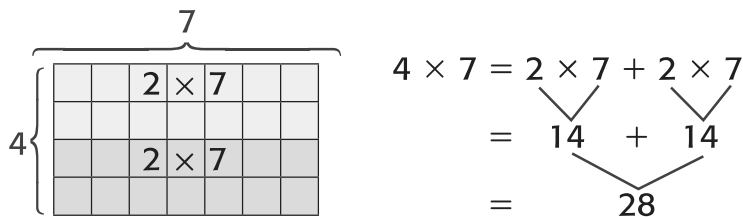
Homework Helper



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Find 4×7 .

Decompose 4 into equal addends of $2 + 2$.



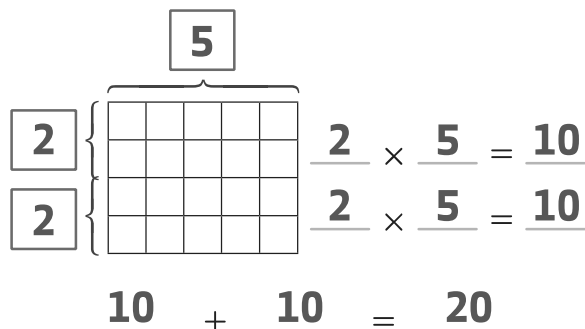
The array shows that 4 groups of 7 equals 2 groups of 7 plus 2 groups of 7.

So, $4 \times 7 = 28$.

Practice

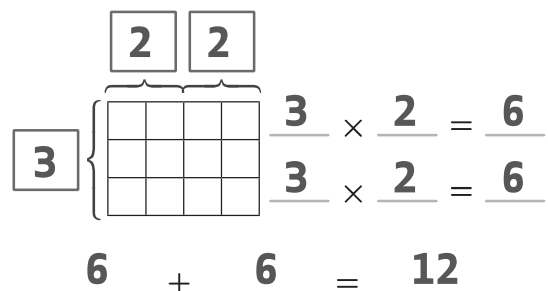
Double a known fact to find the product. Label the array and complete the number sentences.

1. 4×5



So, $4 \times 5 = 20$.

2. 3×4

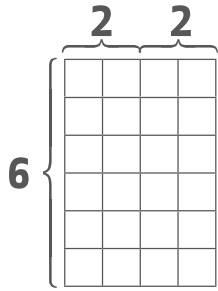


So, $3 \times 4 = 12$.

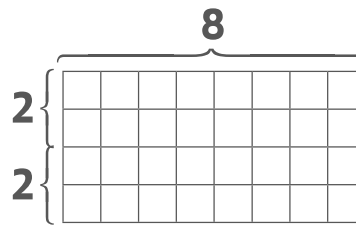
Sample arrays shown: 3, 4

Double a known fact to find each product. Draw and label an array.

3. $6 \times 4 = \underline{24}$



4. $4 \times 8 = \underline{32}$



Algebra Find each unknown. Double a known fact.

5. $9 \times 4 = \blacksquare$


The unknown is 36.

6. $4 \times 4 = \blacksquare$

The unknown is 16.



Problem Solving

7. **PRACTICE**  **Model Math** Melissa owns 4 sets of jewelry. Each set contains 2 earrings, 1 necklace, 1 bracelet, and 1 ring. How many pieces of jewelry does Melissa have altogether? Write a multiplication sentence.

$5 \times 4 = 20$ pieces of jewelry

Vocabulary Check



Write a definition for the vocabulary word(s). Sample answers: 8, 9

8. known fact a fact you have memorized
9. decompose separate a number into 2 equal addends

Test Practice

10. There are 7 birdfeeders at the park. Each birdfeeder has 4 perches. How many birds can use the birdfeeders at the same time?
- (A) 32 birds (C) 11 birds
- (B) 28 birds (D) 3 birds

MY Homework

Lesson 5

Divide by 4

Homework Helper

Need help? connectED.mcgraw-hill.com

The Dolan family bought a pack of 20 juice boxes. There are 4 people in the Dolan family. If they divide the juice boxes evenly, how many will each family member get?

Find the unknown in $20 \div 4 = \square$, or $4 \overline{)20}$.

Use multiplication to find the unknown.

Think: $\square \times 4 = 20$

You know that $5 \times 4 = 20$.

So, $20 \div 4 = 5$, or $4 \overline{)20}^5$.

The unknown is 5. Each family member will get 5 juice boxes.

Practice

Use counters to find how many are in each group.

1. 8 counters
4 equal groups

2 in each group

So, $8 \div 4 = \underline{2}$.

2. 40 counters
4 equal groups

10 in each group

So, $40 \div 4 = \underline{10}$.

3. 28 counters
4 equal groups

7 in each group

So, $28 \div 4 = \underline{7}$.

4. 12 counters
4 equal groups

3 in each group

So, $12 \div 4 = \underline{3}$.

Use repeated subtraction to divide.

5. $24 \div 4 = \underline{6}$

$$\begin{array}{r} 24 \\ - 4 \\ \hline 20 \end{array} \nearrow \begin{array}{r} 20 \\ - 4 \\ \hline 16 \end{array} \nearrow \begin{array}{r} 16 \\ - 4 \\ \hline 12 \end{array} \nearrow \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \nearrow \begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array} \nearrow \begin{array}{r} 4 \\ - 4 \\ \hline 0 \end{array}$$

6. $16 \div 4 = \underline{4}$

$$\begin{array}{r} 16 \\ - 4 \\ \hline 12 \end{array} \nearrow \begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array} \nearrow \begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array} \nearrow \begin{array}{r} 4 \\ - 4 \\ \hline 0 \end{array}$$

Algebra Use the inverse operation to find each unknown.

7. $\underline{4} \times 2 = 8$

$\underline{8} \div 4 = 2$

8. $9 \times \underline{4} = 36$

$36 \div 4 = \underline{9}$



Problem Solving

Write a division sentence to solve.

9. A boat rental shop has enough boats for 28 people to ride. Each boat seats 4 people. How many boats does the shop have?

$28 \div 4 = 7$ boats

Mathematical



10. **PRACTICE** **Explain to a Friend** Ollie shared 24 marbles evenly with 3 friends. Kaitlyn shared 18 marbles evenly with 2 friends. Did Ollie or Kaitlyn's friends get more marbles? Explain.

Everyone got 6 marbles; $24 \div 4 = 6$ and $18 \div 3 = 6$

Test Practice

11. Each minute, 4 gallons of water flow into a bathtub. How many minutes does it take for the bathtub to have 32 gallons of water?

- (A) 6 minutes (C) 8 minutes
(B) 7 minutes (D) 9 minutes

MY Homework

Lesson 6

Problem Solving: Extra or Missing Information

Homework Helper



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Arthur will cut a 12-foot board into 4 equal pieces. If it takes him 10 minutes to cut the board how long will each piece be?

1 Understand

What facts do you know?

Arthur has a 12-foot long board.

He will cut the board into 4 equal pieces.

It will take 10 minutes to cut the board.

What do you need to find?

the length of the 4 pieces

2 Plan

Decide which facts are important.

- the length of the board being cut
- the number of pieces being cut

3 Solve

Divide the board's length by the number of pieces being cut.

$$12 \div 4 = 3.$$

So, each piece will be 3 feet long.

4 Check

Does the answer make sense?

Use the inverse operation, multiplication, to check.

$$3 \times 4 = 12$$

So, the answer is reasonable.

Extra Information

It will take him 10 minutes
to cut the board.



Problem Solving

Determine if there is extra or missing information to solve each problem. Then solve if possible.

1. Brandy ate 9 corn chips for a snack. She ate twice as many raisins. She also drank a juice box. How many raisins did Brandy eat?

18 raisins; extra information: Brandy also drank a juice box.

2. Miguel bought a movie ticket that cost \$5. He also bought popcorn and a bottle of water. How much did Miguel spend altogether?


missing information: cost of popcorn and water

3. Annie has basketball practice from 2:30 P.M. to 4:00 P.M. She makes 10 free throws every practice. How many free throws does she make in 4 practices?

40 free throws; extra information: Annie is at practice from 2:30 P.M. to 4:00 P.M.

4. Naya has 12 flowers. She gives away 6 to Jane and 3 to Heather. Hannah does not have any flowers. How many flowers does Naya have left?

3 flowers; extra information: Hannah has no flowers

5. **Mathematical PRACTICE**  **Draw a Conclusion** Juan bought two new tires for his bike. He also had the bike tuned up. The total bill was \$65. How much did Juan spend on the 2 tires?

missing information: the cost of the tune up

My Work!



Name _____

MY Homework

Lesson 7

Multiply by 0 and 1

Homework Helper



Need help? connectED.mcgraw-hill.com

Three customers each bought a cone with 1 scoop of frozen yogurt. How many scoops did the customers buy in all?

Find 3×1 .



The Identity Property of Multiplication states that when any number is multiplied by 1, the product is that number.

So, $3 \times 1 = 3$.

The 3 customers have eaten their frozen yogurt cones. Now how many scoops do the customers have in all?

Find 3×0 .



The Zero Property of Multiplication states that when any number is multiplied by 0, the product is 0.

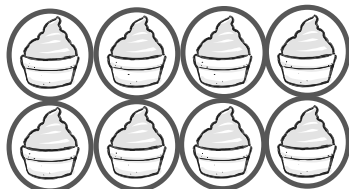
So, $3 \times 0 = 0$.

Practice

Algebra Circle equal groups to find the unknown. Write the unknown.

1. $8 \times 1 = \blacksquare$

The unknown is 8.



2. $5 \times 1 = \blacksquare$

The unknown is 5.



Use the Identity Property of Multiplication or the Zero Property of Multiplication to find each product.

3. $4 \times 0 = \underline{0}$

4. $7 \times 1 = \underline{7}$

5. $7 \times 0 = \underline{0}$

6. $6 \times 1 = \underline{6}$

7. $1 \times 0 = \underline{0}$

8. $9 \times 1 = \underline{9}$

9. $2 \times 1 = \underline{2}$

10. $8 \times 1 = \underline{8}$

11. $5 \times 0 = \underline{0}$



Problem Solving

Algebra Write a multiplication sentence with a symbol for the unknown for Exercises 12 and 13. Then solve.

12. Jordan collects stamps. If he gets 1 stamp a day for 12 days, how many stamps will he add to his collection?

$1 \times 12 = \blacksquare$; 12 stamps

13. **PRACTICE 6** **Mathematical** **Be Precise** There are no pockets on any of Henry's shirts. How many pockets do 6 of Henry's shirts have?

$6 \times 0 = \blacksquare$; 0 pockets

Vocabulary Check



Write the correct word to complete the sentence.

Identity

Zero

14. The Zero Property of Multiplication states that any number multiplied by 0 equals 0.
15. The Identity Property of Multiplication states that any number multiplied by 1 is that number.

Test Practice

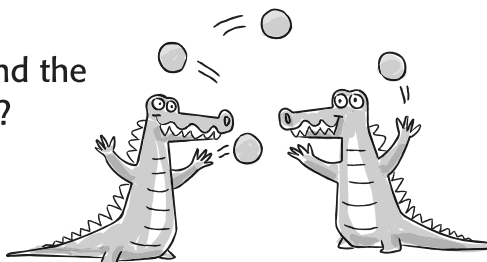
16. Which multiplication sentence shows how to find the number of wings two alligators have altogether?

(A) $1 + 1 = 2$

(C) $1 \times 1 = 1$

(B) $2 \times 2 = 4$

(D) $2 \times 0 = 0$



MY Homework

Lesson 8

Divide with 0 and 1

Homework Helper

Need help? connectED.mcgraw-hill.com

Larry has 3 keys. He divides them evenly among 1 keychain.
How many keys are on each keychain?

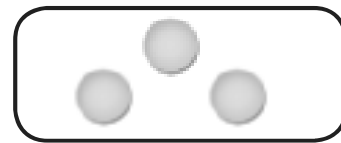
Find $3 \div 1$.

Use counters to model.

Divide 3 counters evenly into 1 group.

So, $3 \div 1 = 3$.

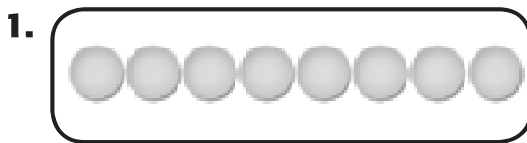
There are 3 keys on the keychain.



There are 3 counters
in one group.

Practice

Complete the division sentence for each model.



$$8 \div 1 = \underline{8}$$



$$0 \div 2 = \underline{0}$$



$$0 \div 4 = \underline{0}$$



$$1 \div 1 = \underline{1}$$

Algebra Use a related multiplication fact to find the unknown.

5. $9 \div 9 = \blacksquare$

$9 \times \underline{1} = 9$

The unknown is 1.

6. $0 \div 6 = \blacksquare$

$6 \times \underline{0} = 0$

The unknown is 0.

7. $0 \div 8 = \blacksquare$

$8 \times \underline{0} = 0$

The unknown is 0.

8. $2 \div 2 = \blacksquare$

$2 \times \underline{1} = 2$

The unknown is 1.




Problem Solving

Write a division sentence to solve.

9. There are 15 children who want to share 15 apples. How many apples will each child get?

$15 \div 15 = 1$ apple

10. **PRACTICE**  **Identify Structure** Mrs. Perkins needs 24 sheets of red paper so she can give one to each student in her class. She looked on the shelf, and there are no sheets of red paper left. How many sheets of red paper can Mrs. Perkins hand out?

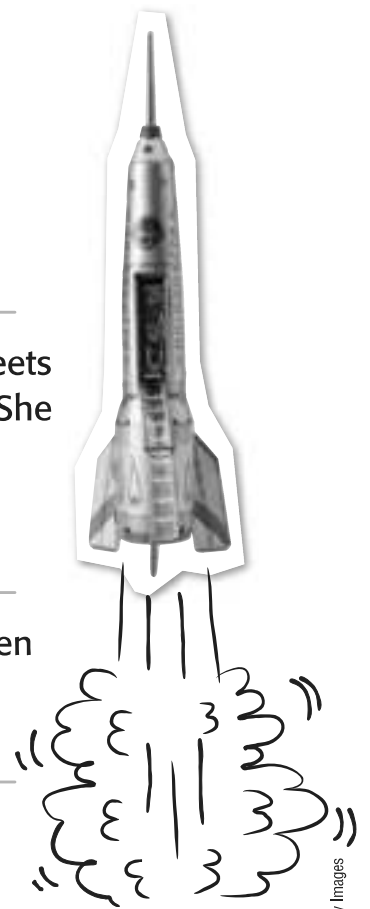
$0 \div 24 = 0$; 0 sheets

11. Lionel bought 3 model rockets. He shares them equally between himself and 2 friends. How many rockets does each boy have?

$3 \div 3 = 1$ rocket

12. Myra draws 5 animals for a class project. She puts each drawing in a separate folder. How many folders does Myra use?

$5 \div 1 = 5$; 5 folders



Test Practice

13. Angelina has 6 books. She has 1 backpack to carry her books. How many books does Angelina have in her backpack?

- (A) 7 books (C) 1 book
(B) 6 books (D) 0 books