CRAVEN
COMMUNITY COLLEGE

TABE Math-E

PAXEN

Unit-3 Multiply and Divide Whole Numbers

Lesson 20
Fact Families

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Some graphics may not have copied well during the scan process.

Math-E - Lesson 20 – Fact Families

Lesson 20 Fact Families

3.OA.4 – Low

You can use a variety of strategies to determine the unknown number in a multiplication or division equation.

Example **Find the missing value to make the statement true.**
$5 \times \_\_\_\_ = 35$

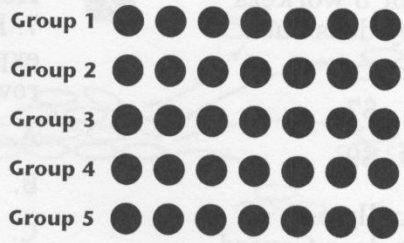
1) When you divide something, you take a quantity and divide it into equal groups. Think of a division problem as an equal groups problem.

5 groups of _____ = 35

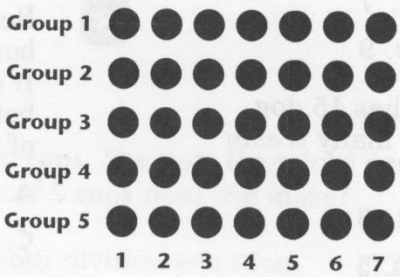
2) Make a model of the equal groups. Create 5 groups, and then draw the same number of objects in each group until you reach the total, 35. You should have an equal number of objects in each row.

Hint

This model is an array. An array is an arrangement of objects and numbers in rows and columns.



3) Count the number of objects in each row.



So, there are 5 equal groups of 7.

$5 \times 7 = 35$.

Test Example

1. Find the missing value to make the statement true.
$18 \div \_\_\_\_ = 3$

A. 54 B. 15

C. 8 D. 6

Strategy

Sketch equal groups to help you. Draw 3 rows. Then draw an equal number of dots in each row until you reach the total. Count the number of dots in each row.

1. **D** If 18 is divided into 3 equal groups, each group will have 6.

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Test Example

1. There are 28 bananas in the store. Each bunch has the same number of bananas. There are 7 bunches. How many bananas are in each bunch?

A. 3 B. 4

C. 21 D. 35

Hint

You can draw a model to represent the problem or use multiplication facts to solve division problems.

1. **B** $28 \div 7 = 4$. There are 4 bananas in each bunch.

Practice

Read each question. Select the correct answer.

1. A client leaves a $24 tip for 3 workers to share. How much money does each worker receive?

A. $6 B. $7

C. $8 D. $9

2. Gerard places 36 cans equally on 4 shelves. How many cans does Gerard place on each shelf?

A. 6 B. 7

C. 8 D. 9

3. Jacqui walks 5 dogs. She has 15 dog treats in her pocket. How many treats does each dog get?

A. 2 B. 3

C. 4 D. 5

4. Danilo earns $100 for 10 hours of work. How much is Danilo paid per hour?

A. $1 B. $10

C. $110 D. $200

5. Rose has 72 minutes to answer 8 questions. How many minutes can she spend on each question?

A. 7 B. 8

C. 9 D. 10

6. There are 21 slices of pizza to be shared equally by 7 people. How many slices of pizza can each person have?

A. 3 B. 4

C. 14 D. 28

7. Henry plants pepper plants in rows of 7. He plants 35 pepper plants. Which expression represents the number of rows of pepper plants?

A. $35 \times 7 = ?$

B. $7 \times 35 = ?$

C. $35 \div ? = 7$

D. $7 \div ? = 35$

8. Beth bought 2 cases of water. She bought a total of 18 bottles of water. If each case has the same number of bottles of water, how many bottles of water are in each case?

A. 36 B. 20

C. 9 D. 6

9. Joey has 4 children. He gives each child the same number of pretzels from a bag. There are 32 pretzels in the bag. How many pretzels does Joey give each child?

A. 7 B. 8

C. 9 D. 10

10. Marcia earns $8 per hour. She earns $56 today. How many hours does Marcia work?

A. 6

B. 7

C. 8

D. 9

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Lesson 20 Fact Families

(3.OA.4)

1. A. 3 can be multiplied by 7 to get 21 because $3 \times 7 = 21$. This problem can be solved by creating 7 groups of 3.
2. C. The array shows 30 total dots arranged into 5 equal rows. There are 6 dots in each row, so $5 \times 6 = 30$.
3. B. $54 \div 6 = 9$ because when 54 roses are divided into 6 groups, each group has 9 roses.
4. C. If there are 8 teams of 7 players, there are 8 equal groups of 7. This problem can be solved by multiplying $8 \times 7 = 56$. Seth needs 56 players to fill all of the teams.
5. D. There are 4 equal rows of 8 dots. The total number of dots is 32.
6. A. There are 4 equal groups of 9 in 36 because $4 \times 9 = 36$.
7. D. 3 groups of 3 are equal to 9.
8. C. 5 equal groups of 8 is 40.

Math-E - Practice 20 – Fact Families

Practice 20 Fact Families

3.OA.4 – Low

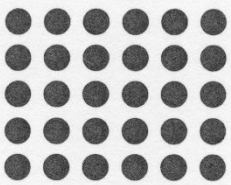
1 Which number can be multiplied by 9 to get a product of 36?

A. 3
B. 4
C. 5
D. 7

2 LaShawna lines up 32 surgical masks in four rows so she can easily pass them out to her nursing students. She places an equal number of masks in each row. How many surgical masks does LaShawna place in each row?

A. 10 surgical masks
B. 9 surgical masks
C. 8 surgical masks
D. 7 surgical masks

3 Cars are arranged in a parking lot as shown in the array. Which two equations can be used to find the total number of cars in the parking lot?



A. $6 \times 7 = 42$
B. $7 \times 5 = 35$
C. $6 \times 5 = 30$
D. $5 \times 7 = 35$
E. $7 \times 6 = 42$
F. $5 \times 6 = 30$

4 As a home health aide, June makes $9 per hour. In one day, she makes $81. How many hours does June work that day?

A. 6 hr
B. 7 hr
C. 8 hr
D. 9 hr

5 Which number completes the equation?

$35 = \_\_\_\_\_ \times 5$

A. 7
B. 8
C. 12
D. 24

6 A box of chocolates has four rows. Each row has six chocolates. How many chocolates are in the box?

A. 4 chocolates
B. 8 chocolates
C. 16 chocolates
D. 24 chocolates

7 Which number can be divided by 7 to get a quotient of 2? Use the array to help you solve.

A. 14
B. 18
C. 21
D. 28

Use the information to answer question 8.

Samantha's truck uses nine gallons of gas to go 108 miles.

8 **Part A**

Which equation can be used to determine the number of miles per gallon Samantha's truck gets?

A. $9 \div 108 =$ _____
B. $9 \div$ _____ $= 9$
C. $108 \div 9 =$ _____
D. $9 \div$ _____ $= 108$

Part B

How many miles per gallon does Samantha's truck get?

A. 12 miles per gallon
B. 10 miles per gallon
C. 8 miles per gallon
D. 6 miles per gallon

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9 How many equal groups of 6 can be made out of 36?

A. 2 B. 3

C. 4 D. 6

10 Bedisa is organizing a soccer tournament for her granddaughter's basketball league. She needs to create ten teams with nine players on each team. How many players does Bedisa need to fill the ten teams?

A. 45 players

B. 60 players

C. 75 players

D. 90 players

11 Maquilla is an accountant. He files eight tax returns per day for five days. How many total tax returns does Maquilla file?

A. 20 tax returns

B. 40 tax returns

C. 60 tax returns

D. 80 tax returns

12 Which value makes the statement true?

$$\_\_\_\_ \div 5 = 4$$

A. 9 B. 12

C. 20 D. 40

13 Gloria is studying for her nursing exam. Every hour, she takes a 10-minute break. Throughout the day, she has 40 minutes of break time. How many hours does Gloria study?

A. 2 hr

B. 4 hr

C. 8 hr

D. 10 hr

14 Rami places 24 cans on three shelves. He places an equal number of cans on each shelf. How many cans are on each shelf?

A. 8 cans

B. 6 cans

C. 4 cans

D. 2 cans

15 Reiko pays her son, Niran, $9 to mow the lawn. How many times will Niran have to mow the lawn to earn $45?

A. 12 times

B. 10 times

C. 7 times

D. 5 times

16 What is the missing value?

$$7 \times 4 = \_\_\_\_\_$$

A. 11 B. 12

C. 28 D. 35

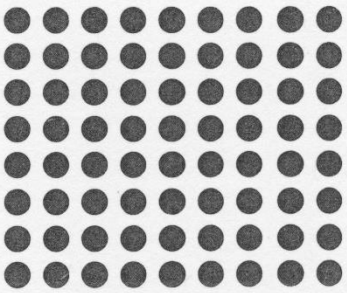
17 Which number makes the statement true?

$$27 \div \_\_\_\_\_ = 9$$

A. 3 B. 6

C. 9 D. 12

Use the array to answer question 18.



18 **Part A**

Which division equation can be used to represent this array?

A. $72 \div \_\_\_\_\_ = 9$

B. $64 \div \_\_\_\_\_ = 8$

C. $63 \div \_\_\_\_\_ = 9$

D. $56 \div \_\_\_\_\_ = 8$

Part B

Which multiplication equation can be used to represent this array?

A. $8 \times \_\_\_\_\_ = 64$

B. $\_\_\_\_\_ \times 8 = 56$

C. $9 \times \_\_\_\_\_ = 72$

D. $\_\_\_\_\_ \times 9 = 63$

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Practice 20 Fact Families

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3.OA.4

1. B. There are 4 groups of 9 in 36: $4 \times 9 = 36$.

2. C. $32 \div 4 = 8$; When 32 surgical masks are divided into 4 groups, each group will have 8 surgical masks.

3. C, F. There are 6 columns of 5 cars: $6 \times 5 = 30$. There are 5 rows of 6 cars: $5 \times 6 = 30$.

4. D. Divide the total June makes for the day by her hourly rate to find the number of hours June works: $81 \div 9 = 9$. June works 9 hours.

5. A. There are 7 groups of 5 in 35: $7 \times 5 = 35$.

6. D. There are 24 chocolates in the box: $4 \times 6 = 24$.

7. A. The array has 2 rows of 7 dots: $2 \times 7 = 14$.

8. Part A: C. To find miles per gallon, divide the number of miles driven by the number of gallons used: $108 \div 9 =$ _____.

Part B: A. When 108 is divided into 9 equal groups, each group will have 12: $108 \div 9 = 12$. Samantha's truck gets 12 miles per gallon.

9. D. When 36 is divided into 6 equal groups, each group has 6: $36 \div 6 = 6$.

10. D. Bedisa needs 10 equal groups of 9: $10 \times 9 = 90$. Bedisa needs 90 players to fill the ten teams.

11. B. Maquilla files 40 tax returns: $8 \times 5 = 40$.

12. C. $20 \div 5 = 4$; When 20 is divided into 5 equal groups, each group will have 4.

13. B. The problem can be set up as $? \times 10 = 40$; $4 \times 10 = 40$; Gloria studies for 4 hours.

14. A. $24 \div 3 = 8$; When 24 cans are divided into 3 groups, each group will have 8 cans.

15. D. The problem can be set up as $\$9 \times ? = \$45$; $9 \times 5 = 45$; Niran must mow the lawn 5 times to save \$45.

16. C. $7 \times 4 = 28$; There are 7 groups of 4 in 28.

17. A. $27 \div 3 = 9$; When 27 is divided into 3 equal groups, each group will have 9.

18. Part A: A. There are 9 equal rows of 8 dots. The total number of dots is 72. The division problem is $72 \div 8 = 9$.

Part B: C. $9 \times 8 = 72$; There are 9 groups of 8 in 72.