



Helping With Math

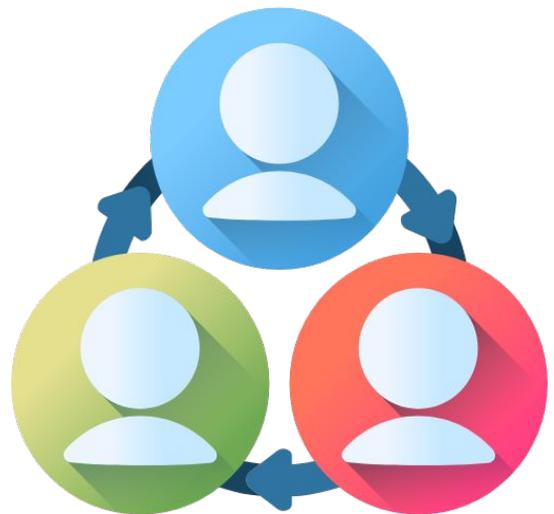
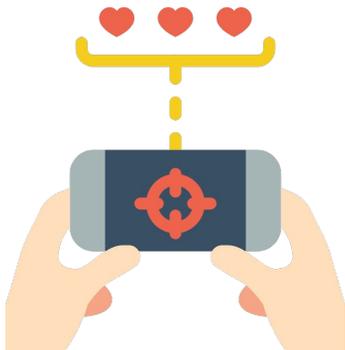
Multiplying and Dividing Fractions

GRADE 6



Strengthening the ability to multiply and divide fractions help the learners to apply it to more real-life situations. To multiply fractions, just multiply the corresponding numerators and denominators. To divide them, it is important to apply the concept of reciprocals.

As a reward in winning the recent video game battle, Patrick, James, and Mark need to divide equally among themselves a $\frac{1}{2}$ - pound chocolate. How much chocolate will each person get?



MULTIPLYING FRACTIONS

STEPS IN MULTIPLYING FRACTIONS



STEP 1

Multiply the numerators.

$$\frac{7}{8} \times \frac{5}{12} = \frac{7 \times 5}{8 \times 12} = \frac{35}{96}$$



STEP 2

Multiply the denominators.

$$\frac{7}{8} \times \frac{5}{12} = \frac{7 \times 5}{8 \times 12} = \frac{35}{96}$$



STEP 3

Simplify the fraction if necessary.

In this case, the fraction cannot be simplified anymore. Therefore, this is the final answer.



Try these!

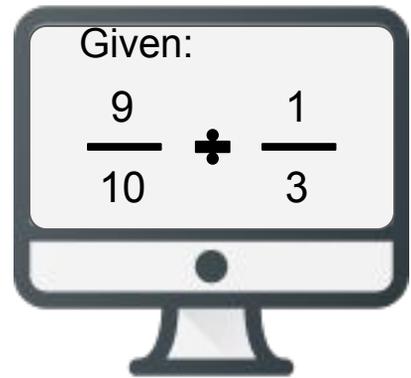
$$\frac{9}{18} \times \frac{3}{6} =$$

$$\frac{7}{14} \times \frac{5}{15} =$$

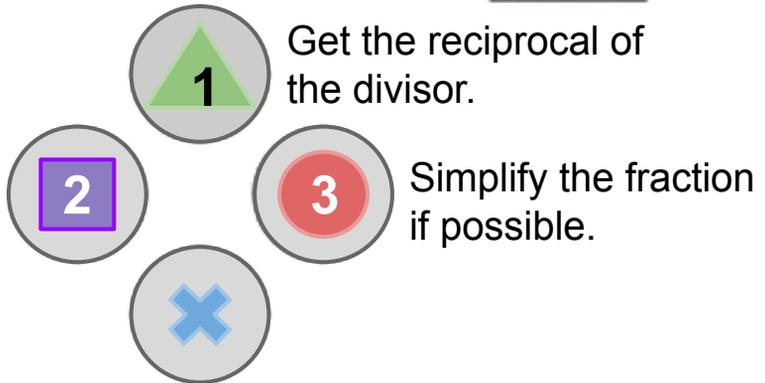


DIVIDING FRACTIONS

STEPS IN DIVIDING FRACTIONS



Multiply the dividend by the reciprocal. (Numerator x numerator; denominator x denominator)



Step 1: Get the reciprocal of the divisor.

$$\frac{9}{10} \div \frac{1}{3} = \frac{9}{10} \times \frac{3}{1}$$

Step 2: Multiply the dividend by the reciprocal.

$$\frac{9}{10} \times \frac{3}{1} = \frac{27}{10}$$

Step 3: Simplify the fraction if possible.

$$\frac{27}{10} = 2 \frac{7}{10}$$



PRACTICE EXERCISES

Try these!

$$\frac{1}{6} \div \frac{2}{10} =$$

$$\frac{1}{7} \div \frac{8}{10} =$$



As a reward in winning the recent video game battle, Patrick, James, and Mark need to divide equally among themselves a $\frac{1}{2}$ - pound chocolate. How much chocolate will each person get?

Step 1: Get the reciprocal of the divisor.

$$\frac{1}{2} \div \frac{3}{1} = \frac{1}{2} \times \frac{1}{3}$$

Step 2: Multiply the dividend by the reciprocal.

$$\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$



Step 3: Simplify the fraction if possible.

$\frac{1}{6}$ pounds. The answer is already in simplest form.



TABLE OF ACTIVITIES

1. Life Potion
2. Pokemon Go
3. Car Racing
4. Bookworm
5. Super Mario
6. Gaming Elements Giveaway
7. Virtual Reality
8. Sony Playstation
9. The Bomb
10. Game Quest



LIFE POTION

Win an unlimited life potion in this game by writing T if the given is correct. Otherwise, write F.

_____ 1. In multiplying fractions, the division operation is used.

_____ 2. The third step in both multiplying and dividing fractions is occasional.

_____ 3. In division of fractions, we multiply the divisor with the reciprocal.

_____ 4. In multiplying fractions, we get the reciprocal of the second fraction.

_____ 5. $\frac{6}{24} \times \frac{8}{8}$ is equal to one-fourth.



Bonus: Write the steps of multiplying **or** dividing fractions.



POKEMON GO

Help Walter find all the characters in Pokemon Go! Solve the given below. Write your solution on a separate sheet of paper.

1. $\frac{2}{5} \div \frac{3}{7} =$

5. $\frac{3}{4} \times \frac{9}{12} =$

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

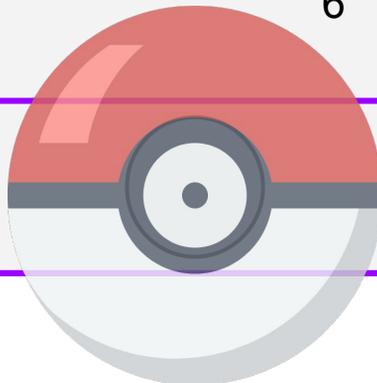
6. $\frac{2}{3} \div \frac{9}{12} =$

3. $\frac{6}{9} \div \frac{8}{9} =$

7. $\frac{5}{9} \times \frac{10}{25} =$

4. $\frac{3}{6} \times \frac{12}{16} =$

8. $\frac{5}{6} \div \frac{4}{8} =$



CAR RACING

Hurry! There is only limited life left. Within 180 seconds, solve the following fractions below.

1. $\frac{10}{13} \times \frac{8}{15} =$

2. $\frac{12}{20} \times \frac{5}{10} =$

3. $\frac{8}{9} \div \frac{16}{18} =$

4. $\frac{9}{14} \div \frac{12}{20} =$



BOOKWORM

Identify and form the word by solving the given first then use your answer as a guide to form the word/s.

A 1. $\frac{3}{8} \div \frac{2}{7} =$

I 5. $\frac{3}{12} \times \frac{7}{11} =$

D 2. $\frac{1}{8} \times \frac{6}{12} =$

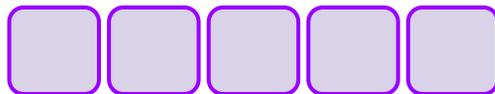
M 6. $\frac{7}{9} \div \frac{8}{5} =$

E 3. $\frac{4}{11} \div \frac{2}{9} =$

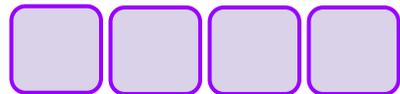
O 7. $\frac{6}{8} \times \frac{3}{6} =$

G 4. $\frac{1}{9} \times \frac{5}{12} =$

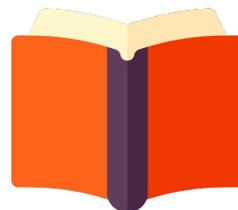
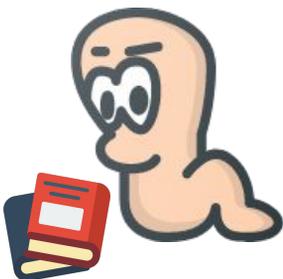
V 8. $\frac{7}{10} \div \frac{5}{12} =$



1 17/25 7/44 1/16 1 7/11 3/8

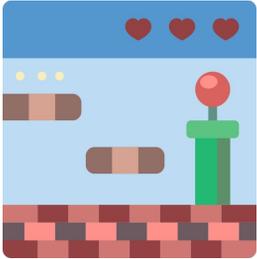


5/108 1 5/16 35/72 1 7/11



SUPER MARIO

Help Mario reach the finish line by solving the multiplication of fractions word problems below.



4. Mario drank $\frac{5}{8}$ of a 24-ounce can of juice. Lucy drank $\frac{1}{3}$ as much juice as Mario did. How many ounces did Lucy drink?

3. Mario had a box of cupcakes, of which he gave $\frac{8}{14}$ to his friend Luigi. Luigi gave $\frac{5}{6}$ of his share to Lucy. What fractional part of the original box of cupcakes did Lucy get?

2. There are $\frac{7}{8}$ kilograms of salt in the kitchen. Mario used $\frac{3}{15}$ of the salt when he was preparing a dinner. How much salt did he use?

1. There was $\frac{5}{8}$ of a mushroom pie left in the fridge. Mario ate $\frac{3}{6}$ of the leftover pie. How much of a pie did he have?



GAMING ELEMENTS GIVEAWAY

The Youtube vlogger named Sara is giving away gaming elements! Win her giveaway by solving the division of fractions word problems below.



GIVEAWAY!

1. Andrei has 8 pints of milk. If he drinks $\frac{1}{4}$ of a pint of milk each day, how long will the 8 pints of milk last him?



2. Clint completed his math homework in $\frac{1}{3}$ of an hour. He had to complete 4 math problems and spent an equal amount of time on each problem. How much of an hour did Clint spend on each problem?



3. Andrea is making cupcakes for her classmates. She has 14 ounces of sprinkles. If she puts $\frac{1}{4}$ ounce of sprinkles on each cupcake, how many cupcakes can she make using the sprinkles she has?



VIRTUAL REALITY

Nathan felt the real scenario through this amazing device! Help him win the fight by solving the following multiplication and division word problems. Show your solution.

1. Erickson's mother buys 4 packs of hamburger meat. Each pack contains $\frac{2}{3}$ of a pound of meat. How much total meat did she buy?
2. Criselda has 3 cups of sugar. She needs to divide the sugar equally into containers of $\frac{1}{3}$ of a cup of sugar. How many containers will Criselda be able to fill?
3. Caleb feeds his dog $\frac{1}{2}$ of a cup of dog food each day. How long will 4 cups of dog food last?
4. Mina is making potato casserole for a dinner party. She needs $\frac{1}{2}$ of a potato per guest. How many potatoes will she need for 9 guests?





SONY PLAYSTATION

The Sony Playstation series are sale! Grab them by correctly answering the word problems below.

1. Jennie's mom used 11 lbs of apples to make homemade applesauce. Each serving was $\frac{1}{10}$ of a pound. How many servings were made?

2. Mr. Teddy has $\frac{1}{3}$ of a pack of notebook paper to share among 6 students. How much of the pack will each student receive?

3. Amanda has one half of her book left to read. She wants to read an equal amount over the next seven days. How much of her book will she read each day?

4. Raymond feeds his fish $\frac{1}{10}$ of a can of fish food each day. How many feedings can he get from seven cans?



THE BOMB

Hurry, the bomb will explode in your game! Answer the word problems below in 5 minutes.

1. The area of a studying floor is 12 sq feet. Mark will be placing $\frac{1}{3}$ sq foot carpet tiles on the entire floor. How many tiles will he need to use?

2. Xian has $\frac{1}{5}$ liter of water. He pours equal amounts into 3 cups. How much water is in each cup?



3. Claire and her 4 friends moved 23 pounds of dirt. Each friend moved the same amount of dirt. How much dirt did each friend move?

4. Emilia has 9 pounds of potting soil. She is putting $\frac{1}{4}$ pound of soil in each flowerpot. How many flowerpots can Emilia prepare with soil?



ANSWER GUIDE

Activity 1

1. F 2. T 3. F 4. F 5. T

Activity 2

- | | |
|------------|-------------------|
| 1. $14/15$ | 5. $9/16$ |
| 2. $1/9$ | 6. $8/9$ |
| 3. $3/4$ | 7. $2/9$ |
| 4. $3/8$ | 8. $1\frac{2}{3}$ |

Activity 3

1. $16/39$ 2. $3/10$ 3. 1 4. $1\frac{1}{4}$

Activity 4

- | | | |
|--------------------|---------------------|---------------------|
| 1. $1\frac{5}{16}$ | 5. $7/44$ | WORD:
VIDEO GAME |
| 2. $1/16$ | 6. $35/72$ | |
| 3. $1\frac{7}{11}$ | 7. $3/8$ | |
| 4. $5/108$ | 8. $1\frac{17}{25}$ | |

Activity 5

1. $5/16$ 2. $7/40$ 3. $10/21$ 4. 5

Activity 5

1. 32 2. $1/12$ 3. 56



ANSWER GUIDE

Activity 7

1. $\frac{8}{3}$ or $2\frac{2}{3}$ 2. 9 3. 8 4. $4\frac{1}{2}$

Activity 8

1. 110 2. $\frac{1}{18}$ 3. $\frac{1}{14}$ 4. 70

Activity 9

1. 36 2. $\frac{1}{15}$ 3. $\frac{23}{5}$ or $4\frac{3}{5}$ 4. 36

Activity 10

Answers may vary.



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