Helping With Math

Multiplying Fractions and Whole Numbers

GRADE 5

In general, multiplication is repeated addition. Do you know that fractions do multiply too? This worksheet aims to demonstrate how to multiply fractions and whole numbers. This will also provide relevant exercises and real-life problem situations to apply your understanding.

John ran $\frac{6}{7}$ miles per day as part of his training.

He already ran for 8 days. What is the total distance

that he ran in a span of 8 days?

STEPS

STEPS ON MULTIPLYING FRACTIONS AND WHOLE NUMBERS.

1. Multiply the numerators.
2. Multiply the denominators.
3. Simplify if necessary.

$$\frac{2}{3} \times 5 = \frac{?}{?} \quad \Rightarrow \quad \frac{2}{3} \times \frac{5}{1} = \frac{10}{3}$$

Directions: Find the product of the following.

1) $\frac{1}{6} \times 3$

2) $\frac{4}{7} \times 5$

3) $\frac{2}{3} \times \frac{1}{2}$

4) $\frac{8}{9} \times \frac{3}{5}$

SOLUTIONS:

REMEMBER! ***Any whole number can be expressed as the number itself over 1.***

Example: 3 is equal to $\frac{3}{1}$

1) $\frac{1}{6} \times 3$

1. Multiply the numerators. $\frac{1 \times 3}{6 \times 1} = \frac{3}{\square}$
2. Multiply the denominators. $\frac{1 \times 3}{6 \times 1} = \frac{3}{6}$
3. Simplify if necessary. $\frac{3}{6} = \frac{1}{2}$

ILLUSTRATIVE EXAMPLES

1. Multiply the numerators.
2. Multiply the denominators.
3. Simplify if necessary.

2) $\frac{4}{7} \times 5$

$\frac{4 \times 5}{7 \times 1} = \frac{20}{\square}$

$\frac{4 \times 5}{7 \times 1} = \frac{20}{7}$

$\frac{20}{7} = 2\frac{6}{7}$

PRACTICE EXERCISES

3) $\frac{2}{3} \times \frac{1}{2}$

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

$\frac{\times}{\times} = __$

$__ = __$

4) $\frac{8}{9} \times \frac{3}{5}$

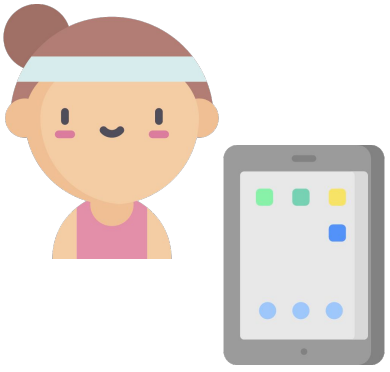
$____ = __$

$____ = __$

$__ = __$

REAL-LIFE APPLICATIONS

Christine has 24 applications on her IPad. She noticed that $\frac{2}{3}$ of these apps are health and lifestyle applications. How many health and lifestyle apps are on her ipad?

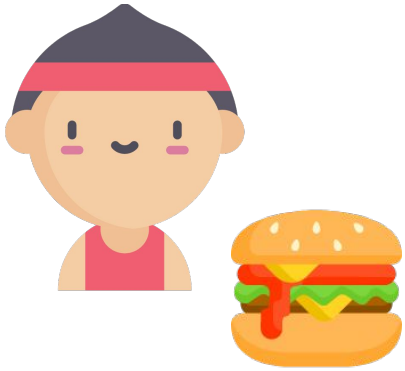


REAL-LIFE APPLICATIONS

SOLUTIONS:

$$\frac{2 \times 24}{3 \times 1} = \frac{48}{3} = \frac{48}{3} = 16$$ health and lifestyle apps

Edward did not follow his strict diet for today. He bought 6 quarter- pounder burgers for him and his friends. What is the total weight of the burgers that he purchased?



SOLUTIONS:

$$\frac{1 \times 6}{4 \times 1} = \frac{6}{4} = \frac{6}{4} = 1.5 \text{ pounds}$$

$$\frac{1}{9} \times 3 = \square$$

$$\frac{5}{6} \times \square = \frac{5}{6}$$

Solution:

TABLE OF ACTIVITIES

1. Gym Buddies
2. Practicing Healthy Lifestyle
3. Nutritious Foods
4. A Balanced Diet
5. Let's Do Some Warm-up
6. Dealing with Treadmill
7. Gym Instructors
8. Gym Membership Fee
9. Cardio Exercises
10. My Healthy Lifestyle

GYM BUDDIES

Looks like Henry and his gym buddies are having a good time! They talked about these things. Which are correct statements? Write FACT if it is otherwise WRONG. State the reason why, then correct it.

The product of 5 and ⅗ is 5.

Answer:

When we multiply 7/10 and 6, the answer is 7/60.

Answer:

The product of ⅓ and ½ is ⅙ .

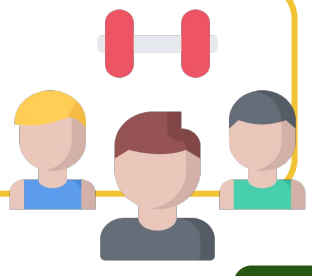
Answer:

When we multiply ⅔ and 8, the answer is 5 ⅓ .

Answer:

The product of 9/10 and 10/9 is 2.

Answer:



PRACTICING HEALTHY LIFESTYLE

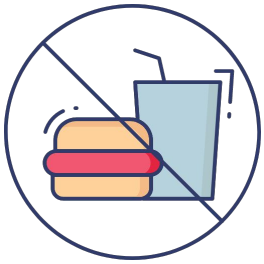
Witness how Lyn practice healthy lifestyle as she solve some math problems. Help her by writing your answer on the box.

$10 \times \frac{1}{5} = \square$

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

$8 \times \frac{1}{4} = \square$

$5 \times \frac{5}{3} = \square$

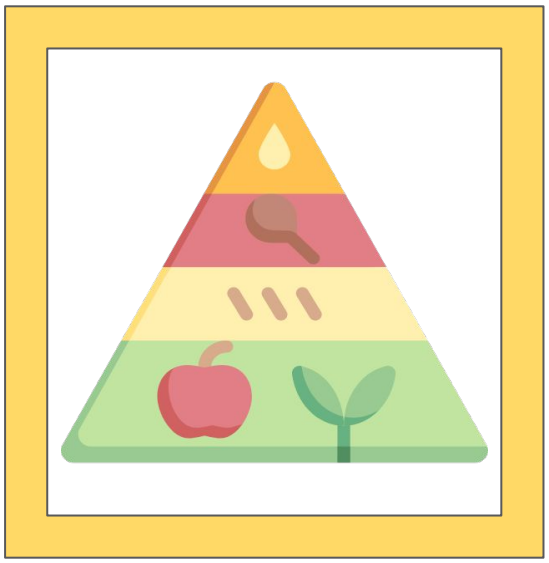


$8 \times \frac{3}{10} = \square$

Solving Space:

NUTRITIOUS FOODS

Help Dr. Smith match the mathematical expression to its corresponding answer as he present the food pyramid. Write the number on the space provided.



1 $\frac{2}{3}$

2 $\frac{6}{7}$

3 $\frac{24}{25}$

4 $\frac{5}{3}$

5 $\frac{40}{9}$

6 $\frac{3}{5}$

7 $\frac{16}{1}$

8 $\frac{7}{5}$

$\frac{3}{4} \times \frac{4}{5}$

$\frac{7}{9} \times \frac{12}{14}$

$\frac{2}{5} \times \frac{3}{6}$

$\frac{1}{5} \times 7$

$\frac{4}{9} \times 10$

$\frac{8}{2} \times 4$

$\frac{9}{7} \times \frac{4}{6}$

$\frac{8}{5} \times \frac{3}{5}$

A BALANCED DIET

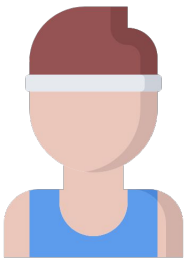
Wow! Kurt is already on his third week of having a balanced diet to maintain a healthy living. However, he also want to enjoy answering some math problems. Can you help him?

$\frac{1}{9} \times 3 = \square$

$\frac{1}{9} \times \frac{1}{9} = \square$

$\frac{5}{6} \times \square = \frac{5}{6}$

$\square \times \frac{7}{8} = 1$

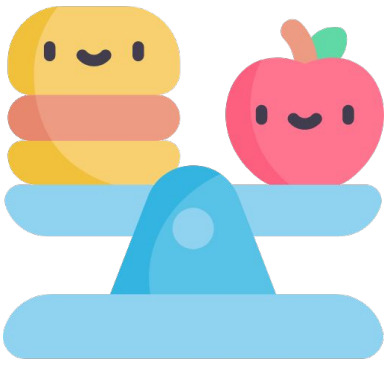


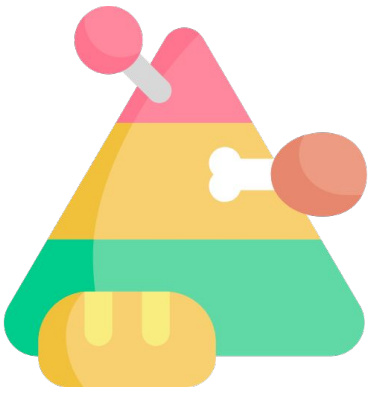
$\frac{2}{7} \times 4 = \square$

$\frac{2}{3} \times \square = \frac{8}{3}$

$\frac{1}{4} \times 9 = \square$

$\frac{9}{7} \times \frac{6}{3} = \square$





LET'S DO SOME WARM-UP

Try not to get muscle cramps by doing some warm-up exercises. Help Erik do these exercises correctly as he solve math problems too!

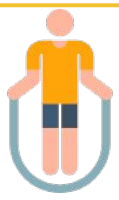
$\frac{3}{8} \times 4 =$ ☐

$\frac{2}{5} \times 8 =$ ☐

$\frac{8}{3} \times 6 =$ ☐

$\frac{7}{2} \times 5 =$ ☐

$\frac{6}{7} \times 8 =$ ☐



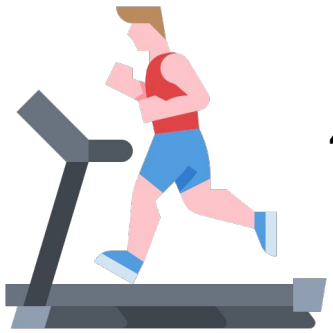
DEALING WITH TREADMILL

Mike really wants to stay fit and healthy. Help him deal with his treadmill as he thinks of the following given.

1. $\frac{1}{5} \times \frac{2}{3} = \square$

2. $\frac{9}{4} \times \frac{6}{5} = \square$

3. $\frac{8}{5} \times \frac{3}{6} = \square$



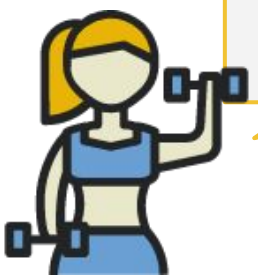
4. $\frac{2}{7} \times \frac{1}{8} = \square$

5. $\frac{5}{3} \times \frac{6}{4} = \square$

6. $\frac{7}{2} \times \frac{3}{2} = \square$

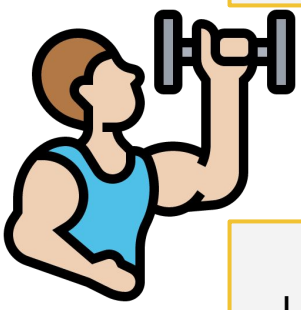
GYM INSTRUCTORS

Whoa! Here are gym instructors from the nearby fitness centre. Can you tell what went wrong to their statements?



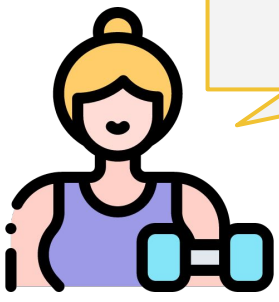
When I multiply ¾ by 7, I multiply the numerators (3 and 7) and the denominators (4 and 7). So my answer is 21/28.

What went wrong?



I solved for the product of 9/2 and 3/7. The answer is 14/27.

What went wrong?



I find the product of 3/6 and 6/5. My answer is 18/30.

What went wrong?

GYM MEMBERSHIP FEE

Gilbert is confused as to which gym offers a better membership fee. Help him decide which gym should he choose.

1. Silver Gym offers a $ 58-monthly membership fee. If Gilbert will only avail 14 ½ months of service, how much will be the total cost?

Solution:

2. Fitness Gym offers a $ 60-monthly membership fee with a special promo of 5% discount monthly if you will avail more than 12 months of service. If Gilbert will only avail 15 ⅓ months of service, how much will be the total cost?

Solution:

3. Which is a better option for Gilbert? Why?

_____
_____
_____
_____
_____

CARDIO EXERCISES

Let's do some cardio exercises! Also, as these activities are good for the heart, let us also solve math problems that are good for the brain!

$\frac{7}{10} \times \frac{5}{2} = \square$

$\frac{1}{6} \times \frac{3}{7} = \square$

$\frac{5}{9} \times 3 = \square$

$\frac{1}{7} \times 2 = \square$

$\frac{1}{5} \times \frac{3}{5} = \square$

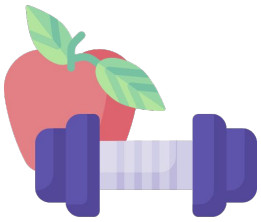
$\frac{5}{9} \times \frac{3}{2} = \square$

$\frac{9}{7} \times 8 = \square$

$\frac{1}{2} \times 5 = \square$

MY HEALTHY LIFESTYLE

Make a pie graph of your daily routine. You must express your answer in terms of the time you allotted in doing these activities. As an application of this lesson, represent the time in fraction. Afterwards, compute how many hours are used to do such. Using a legend is a great help.



How much of your time do you spend to make yourself fit and healthy? How do you do such?

_____

_____

_____.

ANSWER GUIDE

Activity 1

1. Bluff. The product is 3.
2. Bluff. The answer is 42/10 or 21/5
3. Fact
4. Fact
5. Bluff. The answer is 1

Activity 2

1. 2 2. 4 3. 2 4. 25/3 5. 12/5

Activity 3

1. 6 2. 1 3. 4 4. 8
5. 5 6. 7 7. 2 8. 3

Activity 4

1. 1/3 2. 1/18 3. 1 4. 8/7
5. 8/7 6. 4 7. 9/4 8. 18/7

Activity 5

1. 4/3 2. 16/5 3. 16
4. 35/2 5. 48/7

ANSWER GUIDE

Activity 6

1. 2/15 2. 27/10 3. 1/28 4. 21/4 5. 35/20

Activity 7

1. The denominators should be 4 and 1. The correct answer is 21/4.
2. The correct answer is 27/14.
3. 18/30 is not yet in simplest form. The final answer should be ⅗.

Activity 8

1. $ 841 2. $ 919.5

The better offer is the Silver Gym.

Activity 9

1. 35/20 2. 1/14 3. 5/3 4. 2/7

5. 3/25 6. 5/6 7 72/7 8. 5/2.

Activity 10

Answers may vary.

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