



RADIANT HEIGHTS ACADEMY

From Radiant Minds to Great Heights

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Student Name: _____

MATHEMATICS BOOKLET

Level 5-6 Term 2 Week 8

THIS WEEK'S FOCUS

- ✓ Multiplying & Dividing Fractions
- ✓ Word Based Problems

✦ MULTIPLYING & DIVIDING FRACTIONS ✦

1. MULTIPLYING FRACTIONS

Rule:

- Multiply the numerators.
- Multiply the denominators.
- Simplify if possible.

$$\frac{2}{4} \times \frac{3}{7}$$

1 Multiply numerators

$$2 \times 3 = 6$$

2 Multiply denominators

$$4 \times 7 = 28$$

3 Simplify

$$\frac{6}{28} = \frac{3}{14}$$

Answer: $\frac{3}{14}$

2. CROSS-SIMPLIFICATION

Cross-simplification means simplifying numbers diagonally before multiplying.

$$\frac{2}{9} \times \frac{3}{8}$$

Original:

$$\frac{2}{9} \times \frac{3}{8}$$

Cross-simplify:

$$\frac{1}{9} \times \frac{3}{8}$$

Becomes:

$$\frac{1}{3} \times \frac{1}{4}$$

Multiply: $1 \times 1 = 1$
 $3 \times 4 = 12$

Answer: $\frac{1}{12}$

3. MULTIPLYING MIXED NUMBERS

Step 1: Convert mixed number to improper fraction.

$$1\frac{1}{2} \times \frac{4}{9}$$

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

Now: $\frac{3}{2} \times \frac{4}{9}$

Step 2: Cross-simplify.

$$\frac{1}{3} \times \frac{2}{9}$$

Becomes: $\frac{1}{1} \times \frac{2}{3}$

Step 3: Multiply.

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

$$1 \times 2 = 2$$

$$1 \times 3 = 3$$

Answer: $\frac{2}{3}$

4. DIVIDING FRACTIONS

Rule:

- 1 Keep the first fraction.
- 2 Change the division sign to multiplication.
- 3 Flip the second fraction.
- 4 Multiply.
- 5 Simplify if needed.

$$\frac{2}{5} \div \frac{3}{4}$$

1 Keep

$$\frac{2}{5}$$

2 Change

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

3 Flip

$$\frac{2}{5} \times \frac{4}{3}$$

4 Multiply:

$$2 \times 4 = 8$$

$$5 \times 3 = 15$$

Answer: $\frac{8}{15}$

5. DIVIDING FRACTIONS WITH CROSS-SIMPLIFICATION

Example:

$$\frac{4}{7} \div \frac{2}{9}$$

1 Keep, change, flip

$$\frac{4}{7} \times \frac{9}{2}$$

2 Cross-simplify:

$$\frac{4}{7} \times \frac{9}{2}$$

Becomes:

$$\frac{2}{7} \times \frac{9}{1}$$

3 Multiply:

$$2 \times 9 = 18$$

$$7 \times 1 = 7$$

Answer: $\frac{18}{7}$
or $2\frac{4}{7}$

QUICK SUMMARY



MULTIPLYING FRACTIONS

- Multiply top \times top
- Multiply bottom \times bottom
- Simplify



DIVIDING FRACTIONS

- Keep
- Change
- Flip
- Multiply
- Simplify



CROSS-SIMPLIFICATION

- Simplify diagonally before multiplying
- Makes calculations easier!







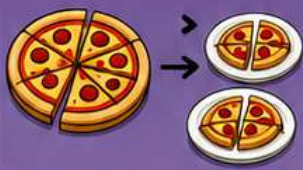
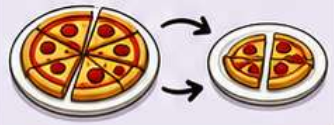


MATHS

OPERATION WORDS



Clue words that help you choose the correct operation in word problems.

OPERATION	SYMBOL	ANSWER IS CALLED	CLUE WORDS	WHAT IT MEANS
ADDITION 	+	Sum	sum, total, altogether, in all, combined, plus, added to	Put amounts together 
SUBTRACTION 	-	Difference	difference, minus, take away, left over, remaining, reduced by, how much more, how much less	Take one amount away from another 
MULTIPLICATION 	×	Product	product, times, multiplied by, groups of, lots of, of, each	Find equal groups or repeated amounts 
DIVISION 	÷	Quotient	quotient, divided by, shared equally, split equally, per, each group, how many groups, how many in each	Split into equal groups or parts 

FRACTION CLUES



- 1 The word 'of' usually means **multiply**.
- 2 When you see 'shared equally' or 'split equally', it usually means **divide**.



BE A MATHS DETECTIVE!
Look for clue words before you solve.





Solve each problem.

1) $\frac{7}{2} \times \frac{17}{4} =$

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

3) $1\frac{3}{4} \times \frac{14}{5} =$

4) $\frac{3}{4} \times \frac{1}{5} =$

5) $\frac{5}{2} \times \frac{13}{4} =$

6) $\frac{2}{3} \times \frac{1}{5} =$

7) $1\frac{1}{2} \times 3\frac{2}{4} =$

8) $\frac{1}{2} \times \frac{13}{3} =$

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

10) $\frac{13}{3} \times 1\frac{1}{4} =$

11) $3\frac{1}{3} \times 3\frac{1}{3} =$

12) $3\frac{4}{5} \times 3\frac{2}{5} =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____



Solve each problem.

1) $\frac{2}{4} \times \frac{1}{3} =$

2) $3\frac{1}{2} \times \frac{1}{5} =$

3) $\frac{1}{3} \times \frac{5}{2} =$

4) $\frac{13}{3} \times 2\frac{3}{4} =$

5) $3\frac{1}{2} \times \frac{5}{2} =$

6) $\frac{1}{5} \times \frac{1}{2} =$

7) $\frac{1}{3} \times \frac{11}{2} =$

8) $1\frac{2}{3} \times \frac{2}{3} =$

9) $2\frac{3}{4} \times 2\frac{1}{4} =$

10) $\frac{13}{4} \times \frac{11}{2} =$

11) $\frac{1}{2} \times \frac{18}{4} =$

12) $1\frac{1}{3} \times \frac{1}{3} =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____



Solve each problem.

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

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

3) $3\frac{1}{2} \times \frac{4}{5} =$

4) $\frac{22}{4} \times \frac{4}{5} =$

5) $\frac{16}{5} \times \frac{29}{5} =$

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

7) $\frac{1}{4} \times \frac{1}{2} =$

8) $3\frac{1}{4} \times 1\frac{3}{4} =$

9) $2\frac{1}{3} \times \frac{11}{2} =$

10) $\frac{1}{3} \times \frac{11}{5} =$

11) $1\frac{2}{4} \times \frac{10}{3} =$

12) $\frac{1}{5} \times \frac{21}{4} =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____



Solve each problem.

1) $\frac{14}{5} \times \frac{12}{5} =$

2) $1\frac{4}{5} \times 1\frac{1}{2} =$

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

4) $\frac{14}{3} \times 1\frac{1}{2} =$

5) $\frac{2}{3} \times \frac{3}{4} =$

6) $1\frac{1}{2} \times \frac{3}{5} =$

7) $2\frac{1}{3} \times \frac{18}{5} =$

8) $\frac{1}{5} \times 3\frac{1}{4} =$

9) $\frac{3}{4} \times \frac{27}{5} =$

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

11) $\frac{7}{3} \times \frac{14}{4} =$

12) $\frac{1}{2} \times \frac{2}{4} =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

Dividing fractions by fractions

Grade 5 Fractions Worksheet

Find the quotients.

1) $\frac{1}{3} \div \frac{4}{6} =$ _____

2) $\frac{1}{5} \div \frac{1}{3} =$ _____

3) $\frac{3}{5} \div \frac{2}{4} =$ _____

4) $\frac{4}{8} \div \frac{2}{6} =$ _____

5) $\frac{1}{3} \div \frac{3}{4} =$ _____

6) $\frac{1}{4} \div \frac{5}{8} =$ _____

7) $\frac{2}{6} \div \frac{1}{3} =$ _____

8) $\frac{4}{5} \div \frac{3}{4} =$ _____

9) $\frac{2}{4} \div \frac{3}{8} =$ _____

10) $\frac{5}{8} \div \frac{3}{6} =$ _____

11) $\frac{2}{4} \div \frac{4}{8} =$ _____

12) $\frac{1}{5} \div \frac{1}{4} =$ _____

13) $\frac{2}{3} \div \frac{1}{3} =$ _____

14) $\frac{4}{5} \div \frac{4}{8} =$ _____

15) $\frac{1}{4} \div \frac{3}{8} =$ _____

16) $\frac{2}{5} \div \frac{1}{4} =$ _____

17) $\frac{4}{6} \div \frac{4}{6} =$ _____

18) $\frac{2}{8} \div \frac{3}{5} =$ _____

19) $\frac{4}{6} \div \frac{2}{3} =$ _____

20) $\frac{1}{5} \div \frac{4}{8} =$ _____

Dividing mixed numbers by fractions

Grade 5 Fractions Worksheet

Find the quotients.

1) $8\frac{3}{8} \div \frac{4}{6} =$ _____

2) $3\frac{2}{3} \div \frac{1}{5} =$ _____

3) $8\frac{4}{6} \div \frac{3}{4} =$ _____

4) $4\frac{1}{4} \div \frac{4}{6} =$ _____

5) $6\frac{1}{3} \div \frac{1}{4} =$ _____

6) $2\frac{2}{3} \div \frac{3}{6} =$ _____

7) $8\frac{1}{6} \div \frac{1}{3} =$ _____

8) $2\frac{4}{5} \div \frac{2}{3} =$ _____

9) $9\frac{2}{3} \div \frac{1}{5} =$ _____

10) $1\frac{3}{8} \div \frac{5}{6} =$ _____

11) $8\frac{2}{6} \div \frac{4}{8} =$ _____

12) $2\frac{4}{5} \div \frac{1}{3} =$ _____

13) $4\frac{2}{4} \div \frac{3}{4} =$ _____

14) $8\frac{5}{8} \div \frac{3}{8} =$ _____

15) $2\frac{1}{3} \div \frac{2}{6} =$ _____

16) $8\frac{2}{6} \div \frac{2}{3} =$ _____

17) $8\frac{4}{5} \div \frac{4}{5} =$ _____

18) $8\frac{5}{8} \div \frac{1}{4} =$ _____

19) $1\frac{3}{4} \div \frac{1}{3} =$ _____

20) $1\frac{2}{6} \div \frac{2}{3} =$ _____

Working Out Space

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Fraction Word Problems Page 1

Multiplication & Division Practice — Year 5/6

Instructions: Read each word problem carefully. Look for clue words such as **product**, **quotient**, **of**, **shared equally**, and **divided by**. Decide whether you need to **multiply** or **divide**. Show all working out and **simplify your final answer** where possible.

1. Art Lesson Paint 🎨

During a class art lesson, Aisha had $\frac{3}{4}$ of a bottle of blue paint left. She used $\frac{2}{3}$ of that paint to colour the background of her poster.

What fraction of the whole bottle of blue paint did Aisha use? Find the **product**.

Working:

Answer: _____

2. Craft Ribbon ✂️

Leo had $\frac{5}{6}$ of a metre of ribbon for a craft project. He cut the ribbon into equal pieces that were each $\frac{1}{3}$ of a metre long.

How many pieces of ribbon could Leo cut? Find the **quotient**.

Working:

Answer: _____

3. School Picnic Sandwiches 🥪

At a school picnic, there were $2\frac{1}{2}$ trays of sandwiches left after lunch. The teachers packed $\frac{3}{5}$ of the sandwiches into lunch boxes for students to take home.

How many trays of sandwiches were packed into lunch boxes?

Working:

Answer: _____

Fraction Word Problems Page 2

4. Lemonade Cups 🍋

Mia had $\frac{7}{8}$ of a litre of lemonade in a jug. She poured the lemonade equally into cups that each held $\frac{1}{4}$ of a litre.

How many cups could Mia fill? Find the **quotient**.

Working:

Answer: _____

5. Garden Watering Can 🌱

A gardener filled a watering can until it was $\frac{4}{5}$ full. She used $\frac{3}{8}$ of the water on a row of tomato plants.

What fraction of the full watering can was used on the tomato plants? Find the **product**.

Working:

Answer: _____

6. Bird Seed Bags 🐦

Noah had $1\frac{1}{2}$ kilograms of bird seed. He wanted to divide it into small bags, with $\frac{1}{4}$ of a kilogram in each bag.

How many small bags could Noah fill?

Working:

Answer: _____

Fraction Word Problems Page 3

7. Weekend Reading

Sophie was reading a chapter book over the weekend. On Saturday, she read $\frac{5}{6}$ of a chapter. On Sunday, she read $\frac{2}{5}$ as much as she read on Saturday.

What fraction of a chapter did Sophie read on Sunday?

Working:

Answer: _____

8. Bakery Dough

A baker had $2\frac{2}{3}$ kilograms of dough. Each bread roll needed $\frac{2}{3}$ of a kilogram of dough.

How many bread rolls could the baker make? Find the **quotient**.

Working:

Answer: _____

9. Soccer Water Cooler

At soccer training, the coach filled a water cooler to $\frac{3}{4}$ of its full capacity. By the end of training, the team had drunk $\frac{2}{3}$ of the water in the cooler.

What fraction of the whole cooler did the team drink? Find the **product**.

Working:

Answer: _____

Fraction Word Problems Page 4

10. Friendship Bracelets

Ava had $3 \frac{1}{2}$ metres of string to make friendship bracelets. Each bracelet needed $\frac{1}{2}$ of a metre of string.

How many bracelets could Ava make?

Working:

Answer: _____

11. Leftover Pizza

A family had $1 \frac{3}{4}$ pizzas left after a birthday party. They ate $\frac{4}{7}$ of the leftover pizza the next day for lunch.

How much pizza did the family eat for lunch?

Working:

Answer: _____

12. School Garden Fertiliser

Ethan had $\frac{5}{6}$ of a bag of fertiliser for the school garden. Each garden bed needed $\frac{1}{6}$ of a bag.

How many garden beds could Ethan fertilise? Find the **quotient**.

Working:

Answer: _____