

Luna's Space Adventure

Name _____

Grade 5 · Multiplying fractions in stories · 5.NF.B.6

Date _____



Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

Story problems Write the multiplication, then solve.

Zed has $\frac{1}{2}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

A recipe needs $3\frac{1}{4}$ cups of flour. Nova makes $\frac{1}{2}$ of the recipe. How much flour is that?

Nova has $\frac{2}{3}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

A recipe needs $1\frac{1}{2}$ cups of flour. Zed makes $\frac{1}{2}$ of the recipe. How much flour is that?

Zed has $\frac{3}{5}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

A recipe needs $2\frac{3}{4}$ cups of flour. Luna makes $\frac{3}{4}$ of the recipe. How much flour is that?

Nova has $\frac{1}{2}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

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ANSWER KEY



Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

Story problems Write the multiplication, then solve.

Zed has $\frac{1}{2}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

$\frac{1}{4}$

A recipe needs $3\frac{1}{4}$ cups of flour. Nova makes $\frac{1}{2}$ of the recipe. How much flour is that?

$\frac{13}{8}$ cups

Nova has $\frac{2}{3}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

$\frac{1}{3}$

A recipe needs $1\frac{1}{2}$ cups of flour. Zed makes $\frac{1}{2}$ of the recipe. How much flour is that?

$\frac{3}{4}$ cups

Zed has $\frac{3}{5}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

$\frac{3}{10}$

A recipe needs $2\frac{3}{4}$ cups of flour. Luna makes $\frac{3}{4}$ of the recipe. How much flour is that?

$\frac{33}{16}$ cups

Nova has $\frac{1}{2}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

$\frac{1}{4}$

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GUIDE

① What this sheet practises

Story problems that take a fraction of a fraction or of a mixed number, like $\frac{1}{4}$ of $\frac{1}{3}$ of a pan, or $\frac{1}{2}$ of a recipe that needs $1\frac{2}{3}$ cups.

② A problem from the sheet, worked out

Story problems Write the multiplication, then solve.

Zed has $\frac{1}{2}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

$\frac{1}{4}$

A recipe needs $3\frac{1}{4}$ cups of flour. Nova makes $\frac{1}{2}$ of the recipe. How much flour is that?

$\frac{13}{8}$ cups

Nova has $\frac{2}{3}$ of a pan of brownies and eats $\frac{1}{2}$ of it. What part of the whole pan is that?

$\frac{1}{3}$

A recipe needs $1\frac{1}{2}$ cups of flour. Zed makes $\frac{1}{2}$ of the recipe. How much flour is that?

$\frac{3}{4}$ cups

How: “Of” means multiply. Write the multiplication, change any mixed number to a fraction, multiply the tops and the bottoms, then simplify: $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$.

③ Words to know

of means multiply

mixed number a whole and a fraction, like $1\frac{2}{3}$

improper fraction top as big as or bigger than the bottom

simplify divide the top and bottom by the same number

④ Watch for

- Adding the fractions instead of multiplying them.
- Multiplying only the fraction part of a mixed number: $\frac{1}{2} \times 1\frac{2}{3}$ is $\frac{5}{6}$, not $1\frac{1}{3}$.
- Answering as a part of the part instead of the whole pan: $\frac{1}{4}$ instead of $\frac{1}{12}$.

⑤ Where it fits

BEFORE

4.NF.B.4

Multiply a fraction by a whole number.

THIS SHEET

5.NF.B.6

Solve real-world problems multiplying fractions and mixed numbers.

NEXT

5.NF.B.7

Divide unit fractions by whole numbers and whole numbers by unit fractions.

⑥ Helping at home

Make half of a recipe together. Work out each new amount, like $\frac{1}{2}$ of $\frac{3}{4}$ cup, before measuring.