

Fraction

Number Sense Routines

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[Basics, Models, Notation: Then Focus](#)

[Equivalence and Comparing: Start Open](#)

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[Operations: Start Open](#)

[Operations: Then Focus](#)

[Decimals: Start Open](#)

[Decimals: Then Focus](#)

Fractions

for Grades K-2

How Much?



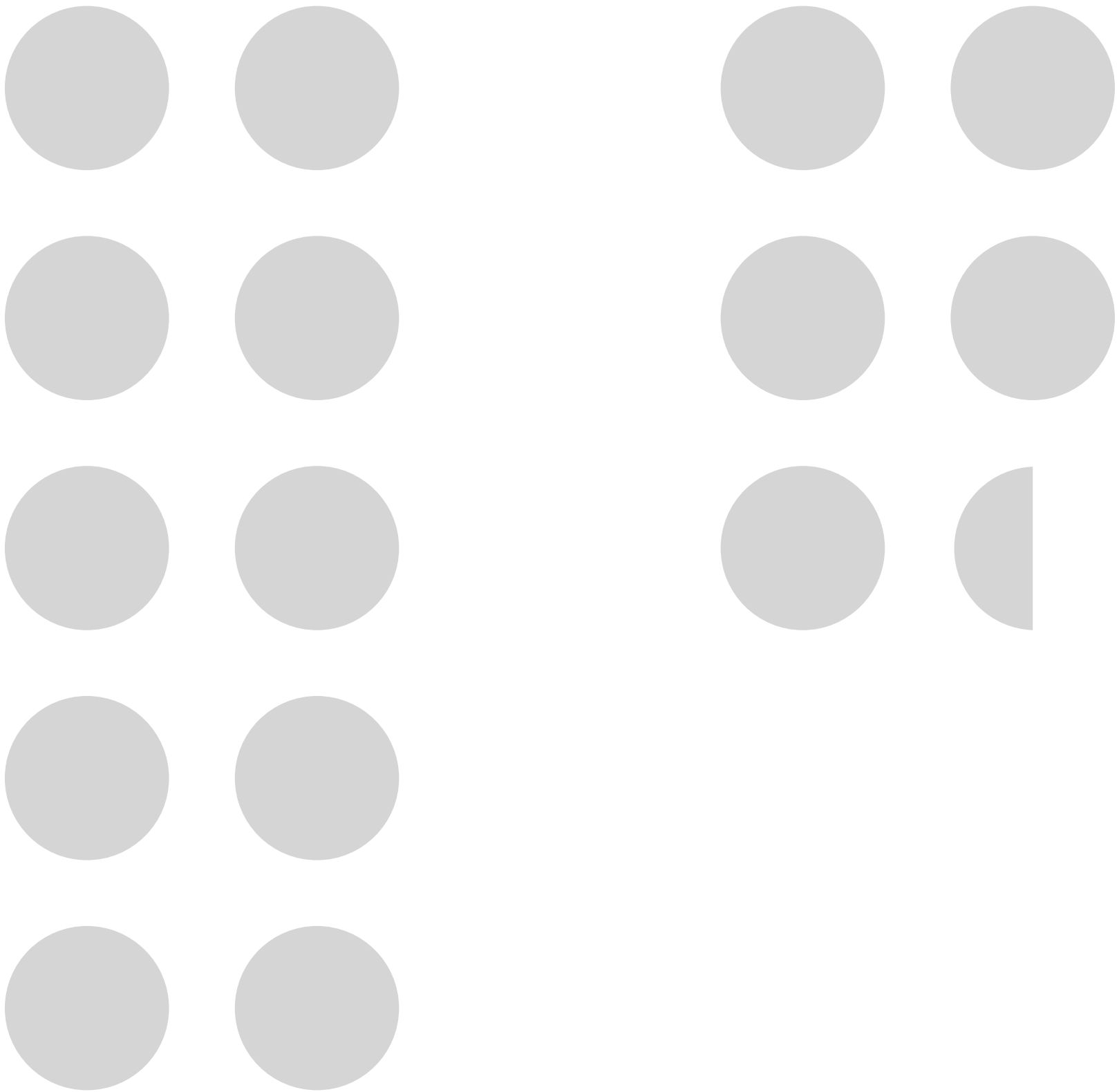
How Much?



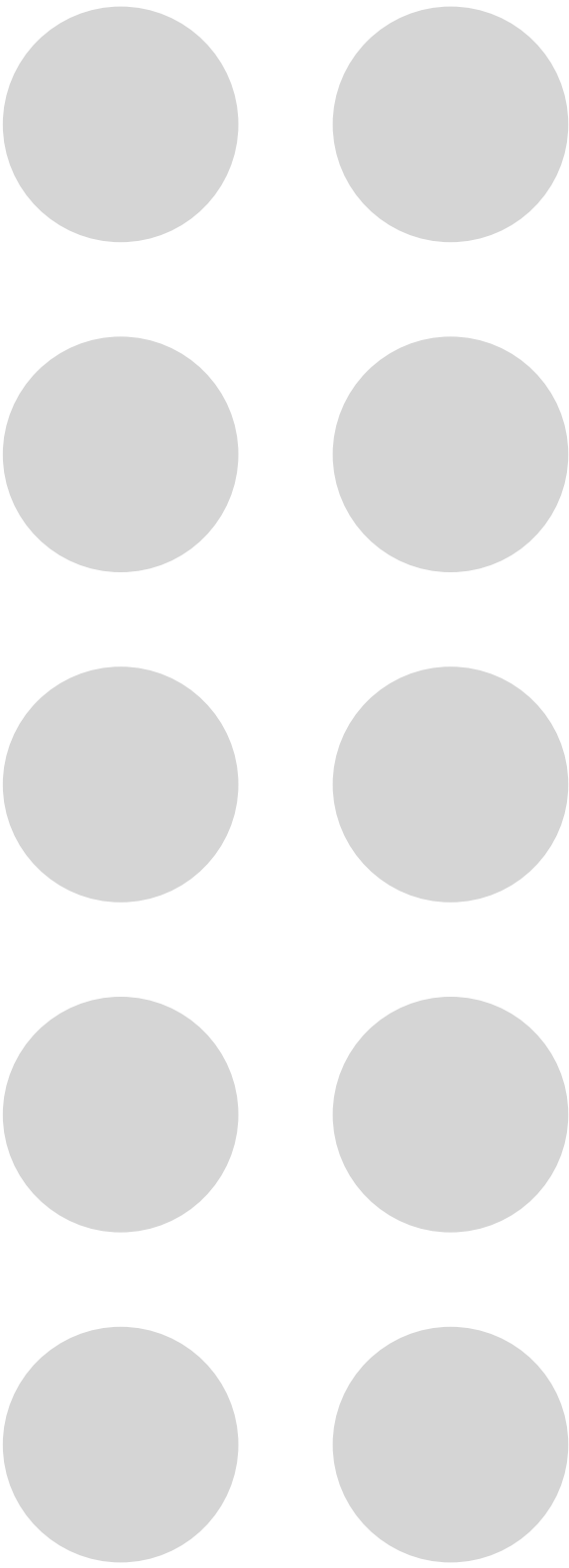
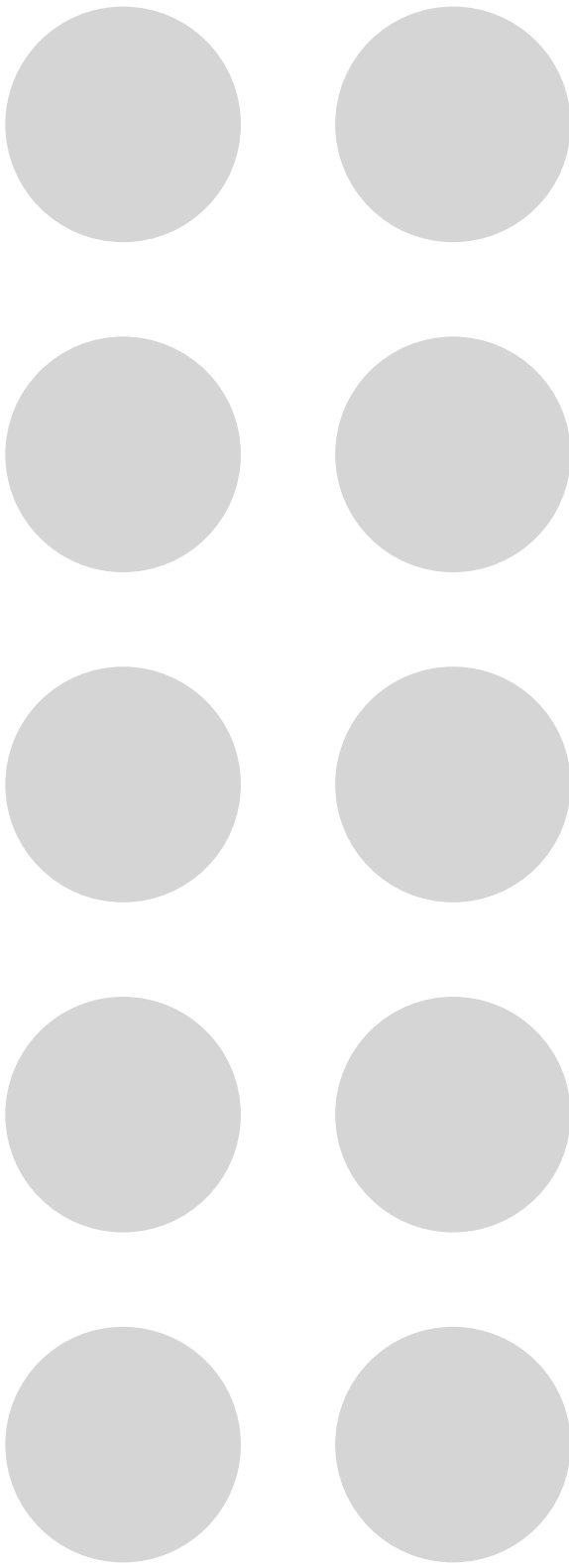
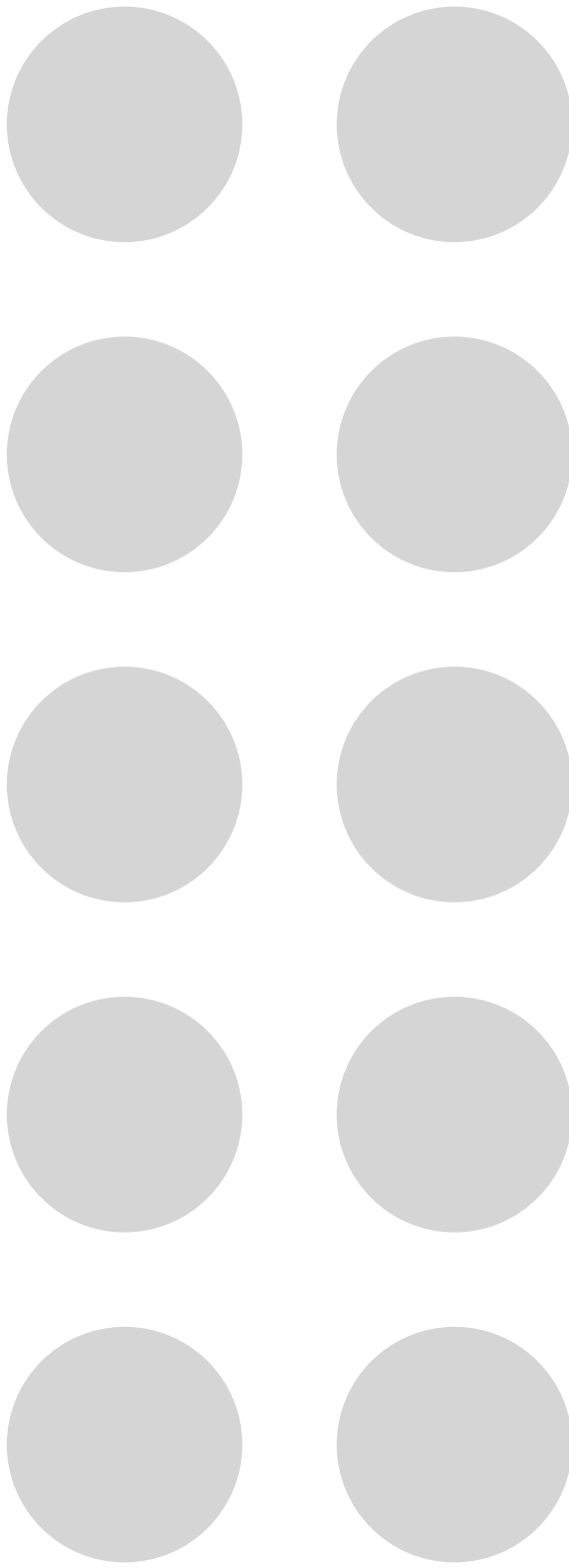
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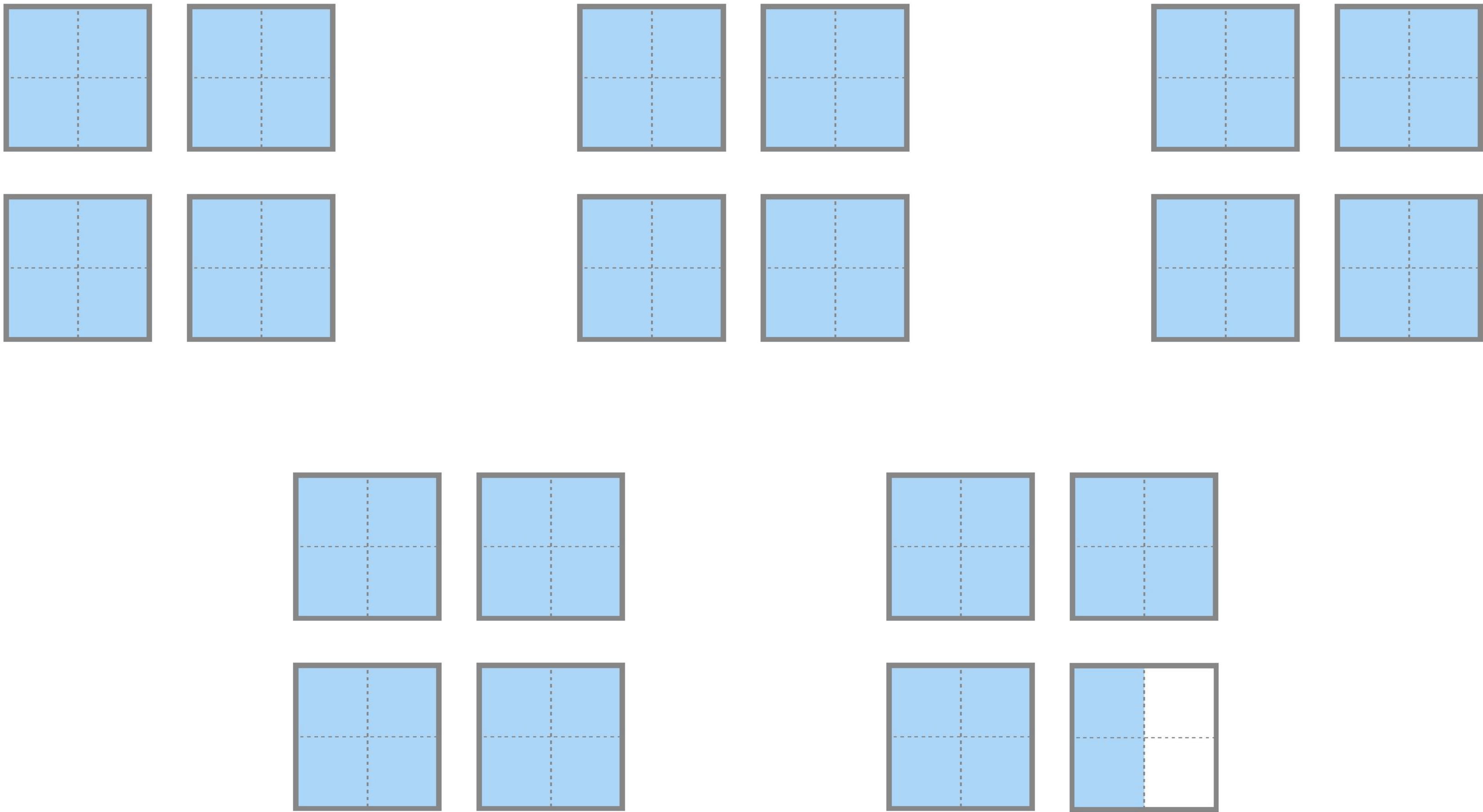
How Much?



How Much?

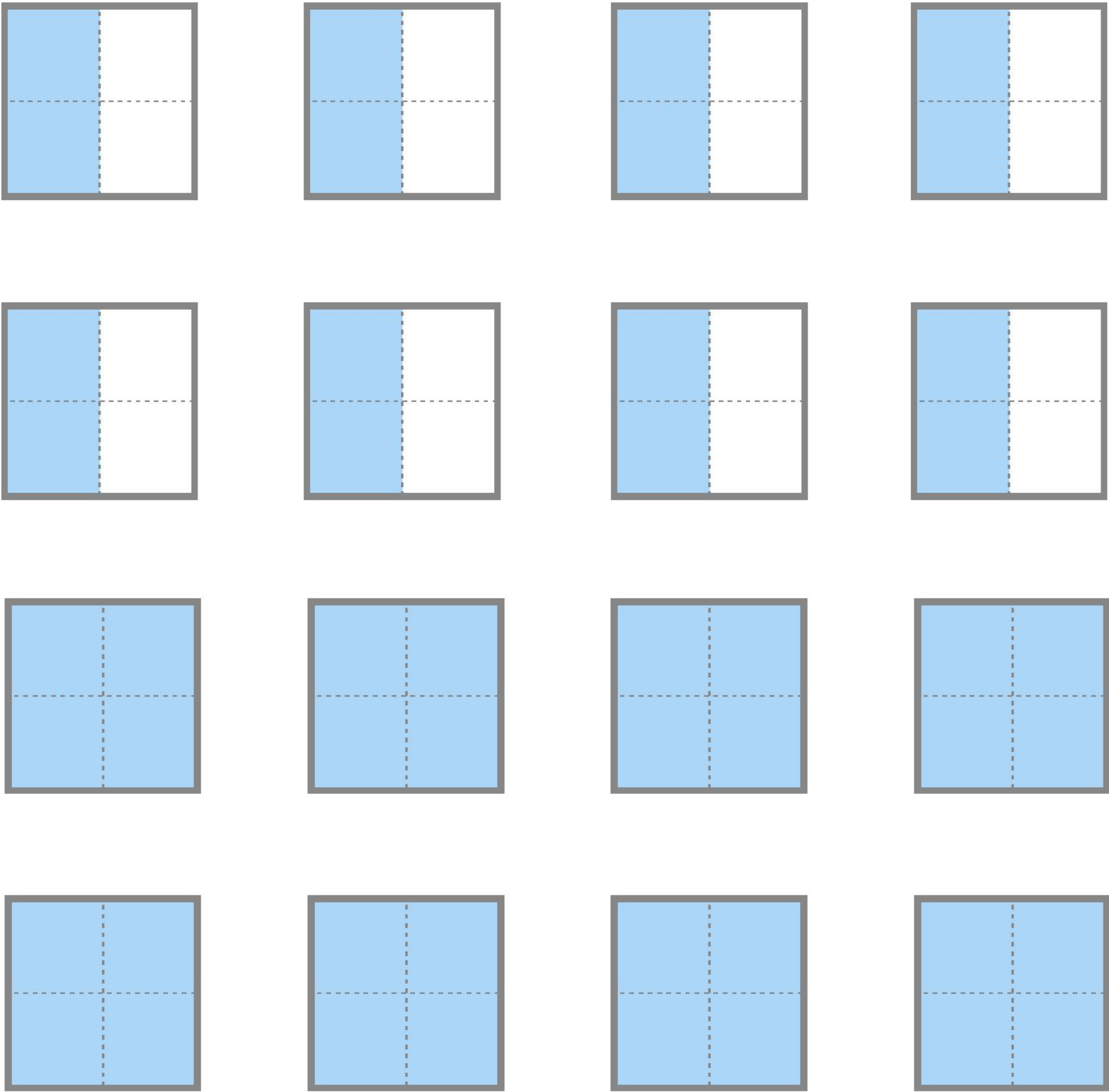


How Much?



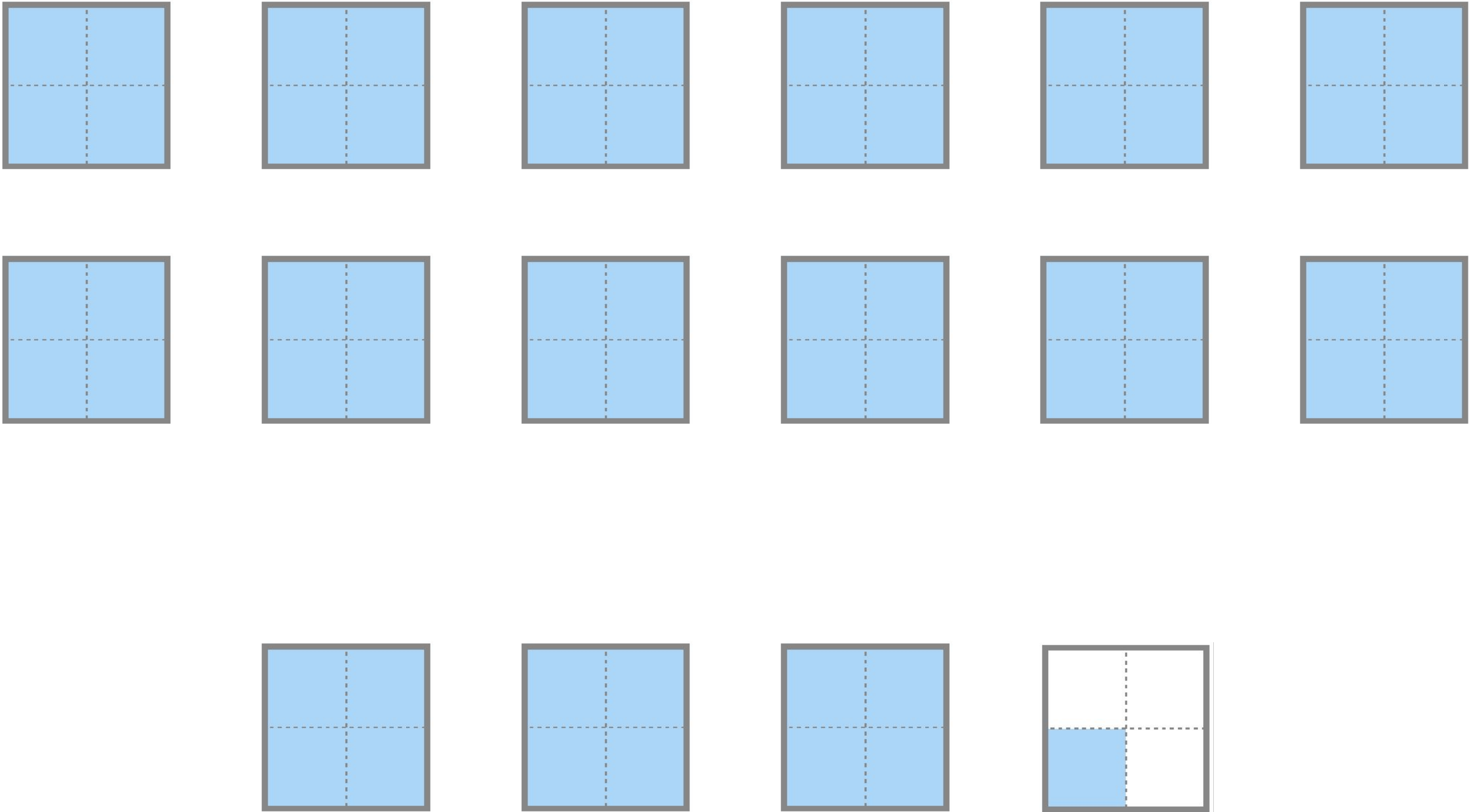
*Each large square
is worth 1*

How Much?



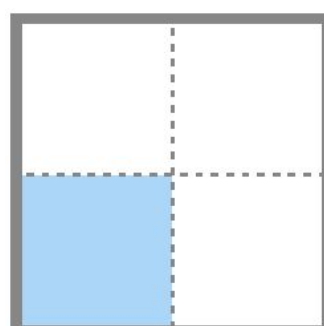
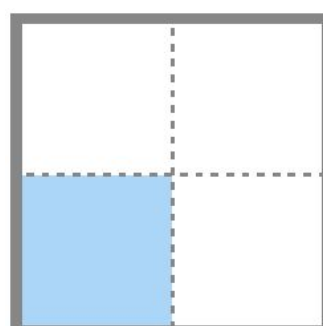
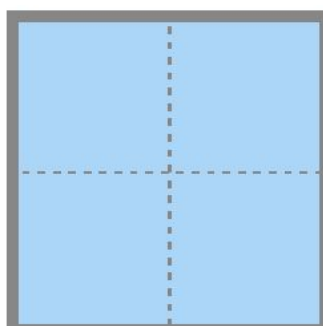
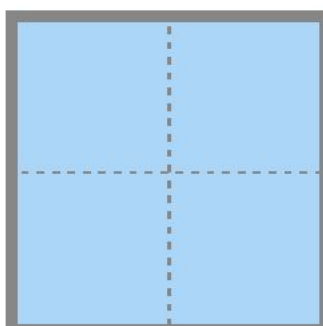
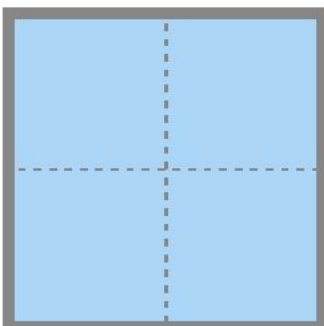
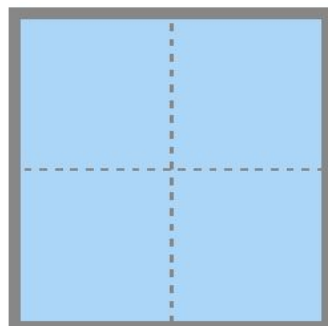
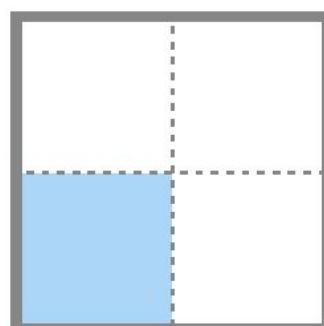
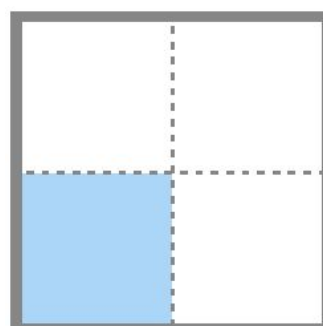
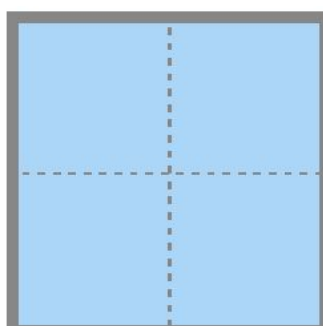
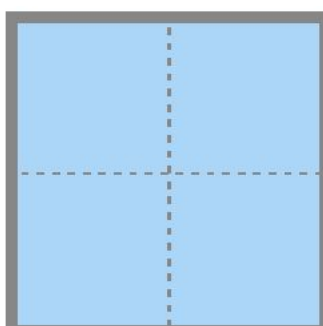
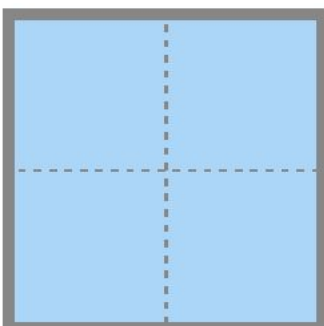
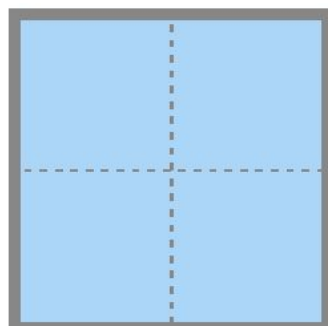
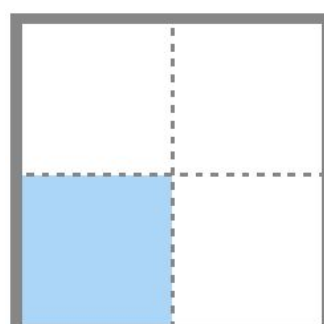
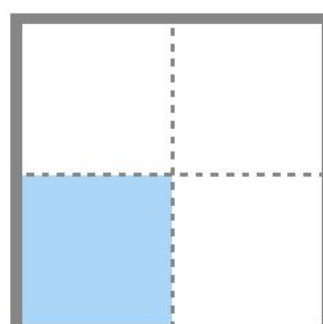
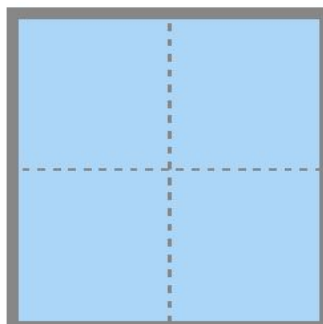
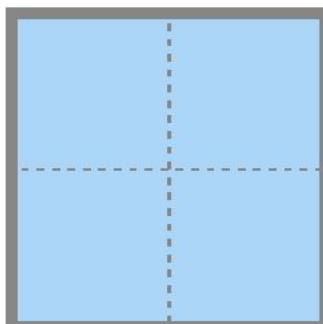
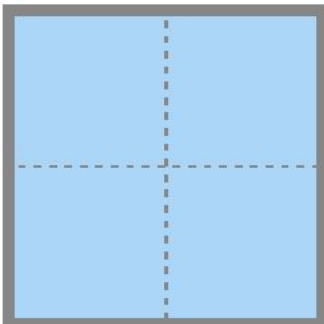
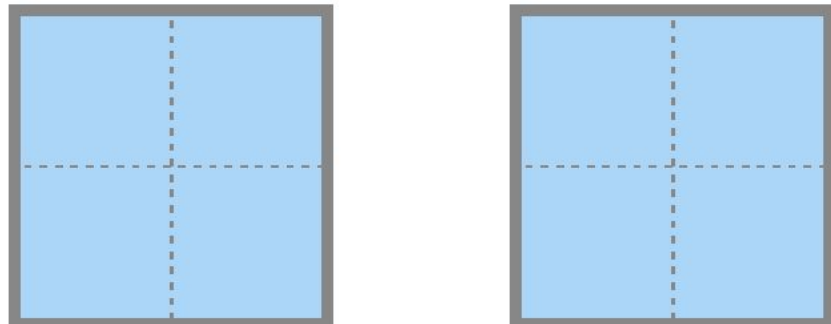
*Each large square
is worth 1*

How Much?

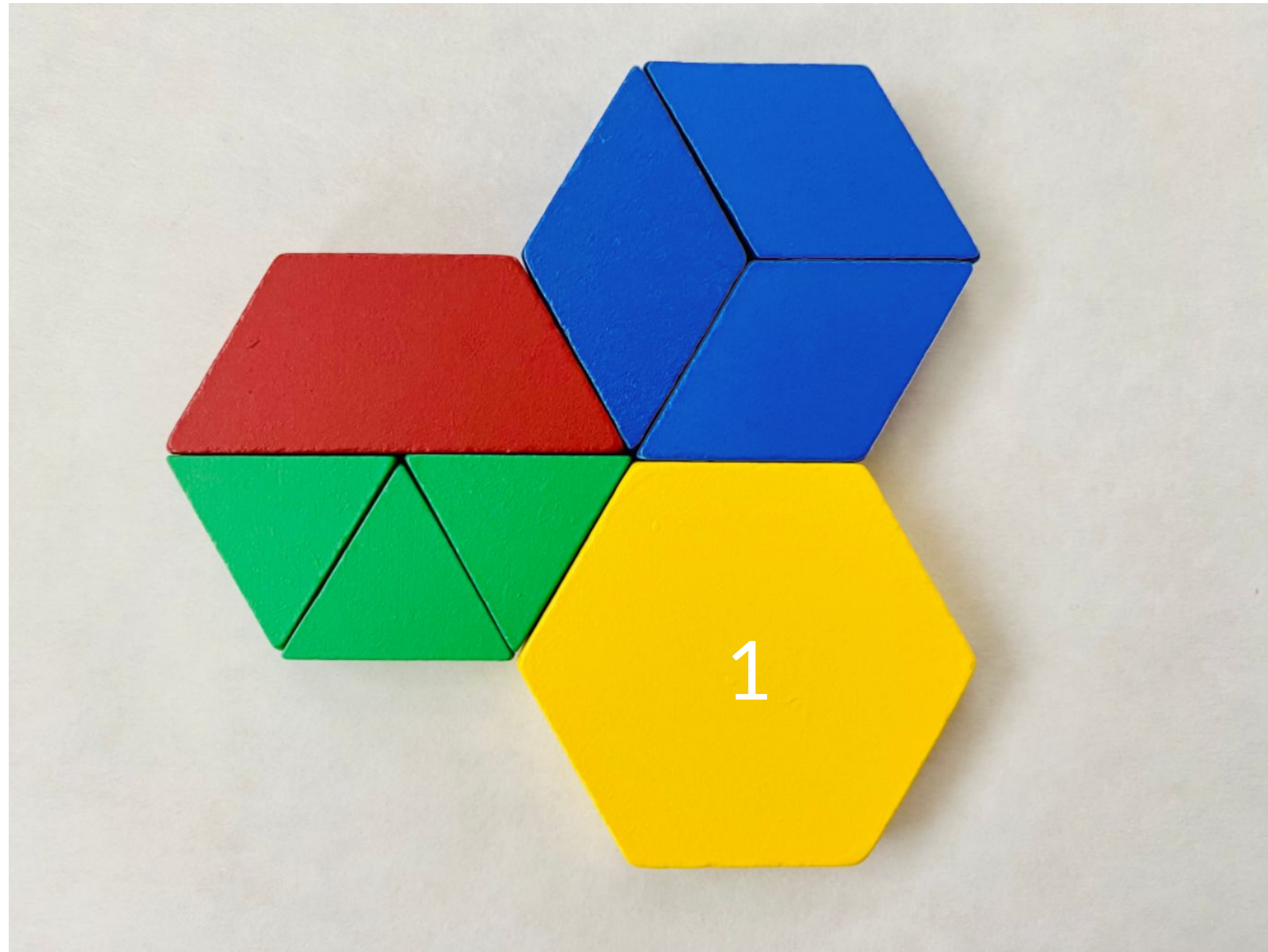


*Each large square
is worth 1*

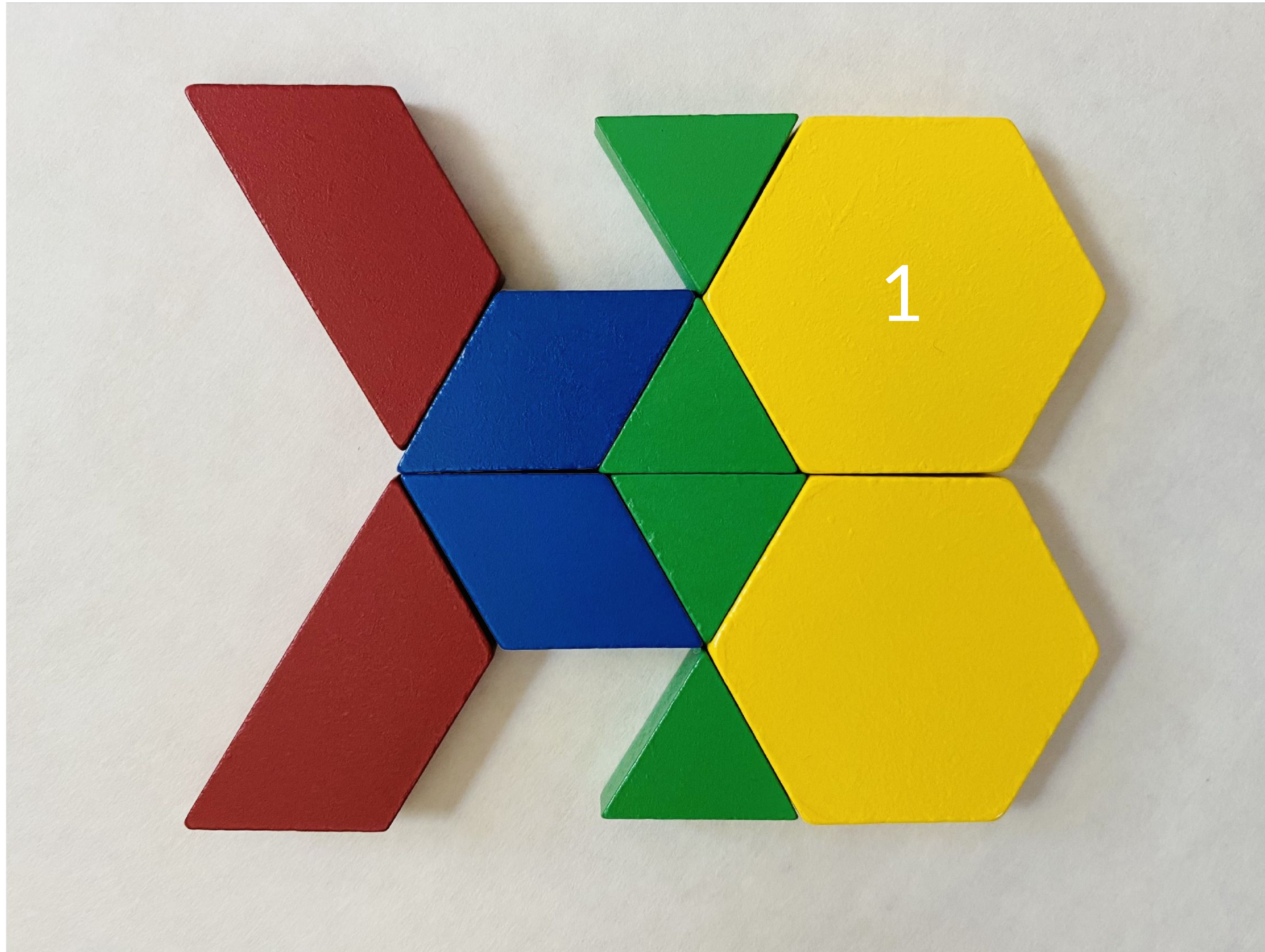
How Much?



How Much?



How Much?



How Much?



Ways to Make

5 and a half

Ways to Make

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

Ways to Make

8 and 2 fourths



Choral Counting by halves starting at 1 half

1 half

2 halves

3 halves

4 halves

5 halves

6 halves

7 halves

8 halves

9 halves

10 halves

11 halves

12 halves

13 halves

14 halves

15 halves

16 halves





Choral Counting by **fourths** starting at **1 fourth**

1 fourth

2 fourths

3 fourths

4 fourths

5 fourths

6 fourths

7 fourths

8 fourths

9 fourths

10 fourths

11 fourths

12 fourths

13 fourths

14 fourths

15 fourths

16 fourths





Choral Counting by $\frac{1}{2}$ starting at $\frac{1}{2}$

$$\frac{1}{2}$$

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

$$\frac{3}{2}$$

$$\frac{4}{2}$$

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

$$\frac{6}{2}$$

$$\frac{7}{2}$$

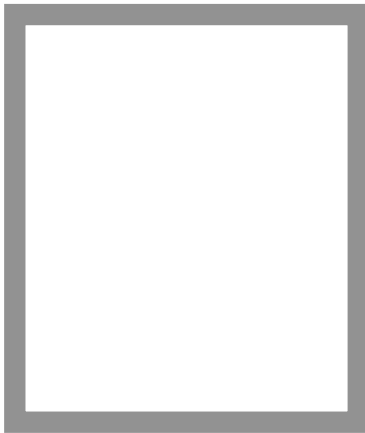
$$\frac{8}{2}$$

$$\frac{9}{2}$$

$$\frac{10}{2}$$

$$\frac{11}{2}$$

$$\frac{12}{2}$$





Choral Counting by $\frac{1}{4}$ starting at $\frac{1}{4}$

$$\frac{1}{4}$$

$$\frac{2}{4}$$

$$\frac{3}{4}$$

$$\frac{4}{4}$$

$$\frac{5}{4}$$

$$\frac{6}{4}$$

$$\frac{7}{4}$$

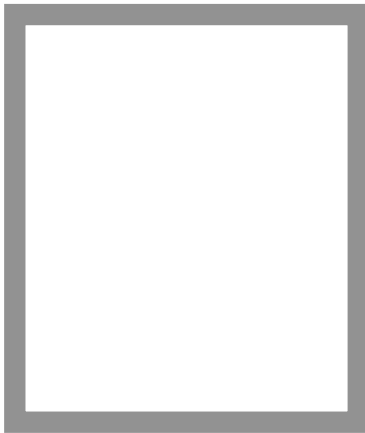
$$\frac{8}{4}$$

$$\frac{9}{4}$$

$$\frac{10}{4}$$

$$\frac{11}{4}$$

$$\frac{12}{4}$$





Choral Counting by $\frac{1}{8}$ starting at $\frac{1}{8}$

$$\frac{1}{8}$$

$$\frac{2}{8}$$

$$\frac{3}{8}$$

$$\frac{4}{8}$$

$$\frac{5}{8}$$

$$\frac{6}{8}$$

$$\frac{7}{8}$$

$$\frac{8}{8}$$

$$\frac{9}{8}$$

$$\frac{10}{8}$$

$$\frac{11}{8}$$

$$\frac{12}{8}$$

$$\frac{13}{8}$$

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$$\frac{15}{8}$$

$$\frac{16}{8}$$

$$\frac{17}{8}$$

$$\frac{18}{8}$$

$$\frac{19}{8}$$

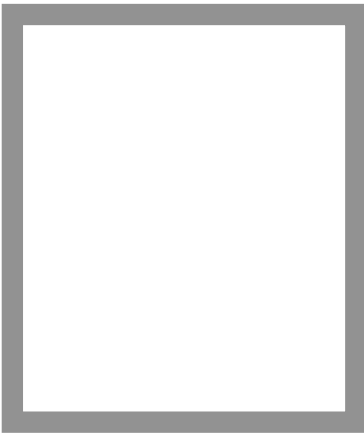
$$\frac{20}{8}$$

$$\frac{21}{8}$$

$$\frac{22}{8}$$

$$\frac{23}{8}$$

$$\frac{24}{8}$$



Same and Different



Same and Different



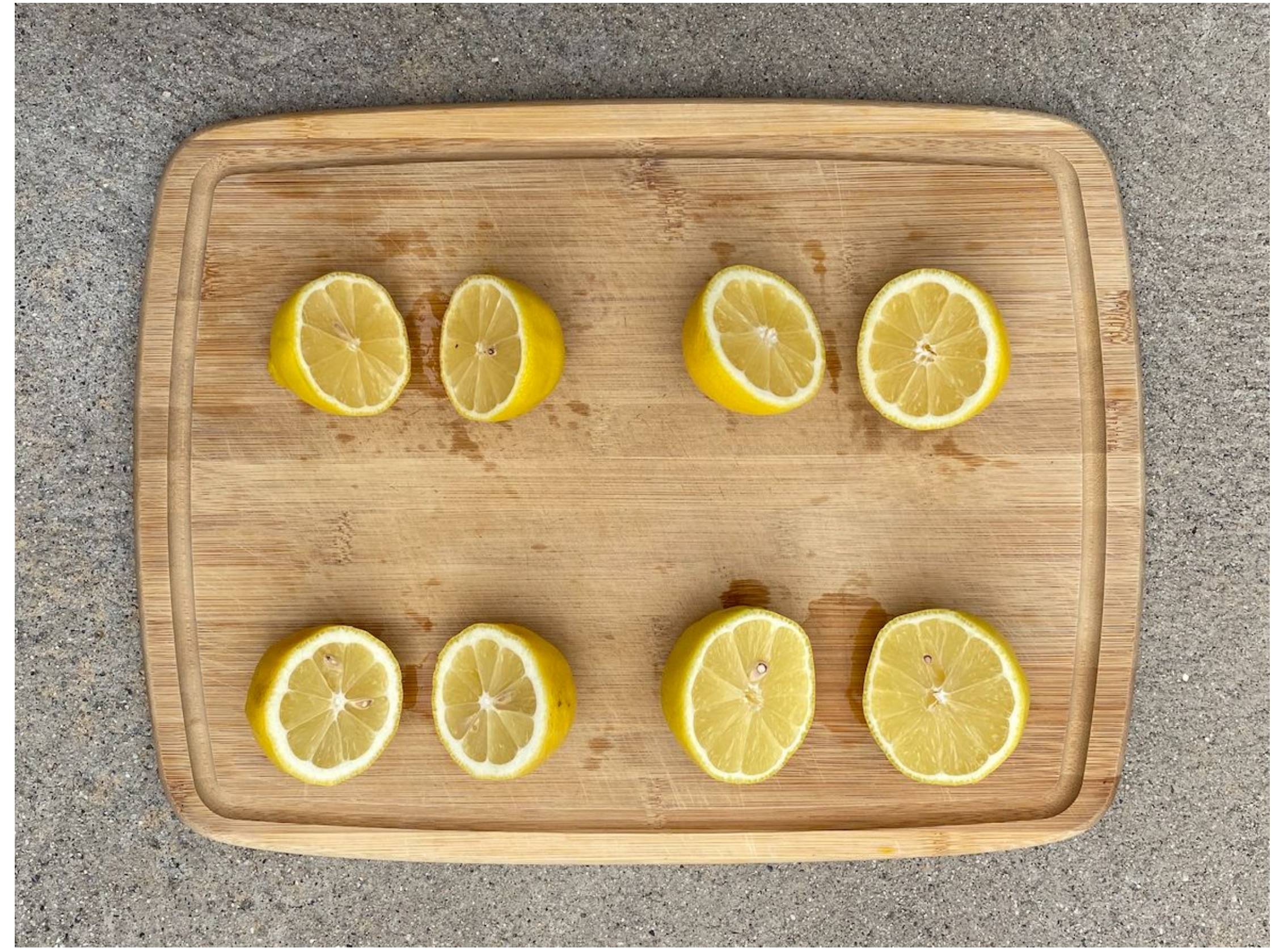
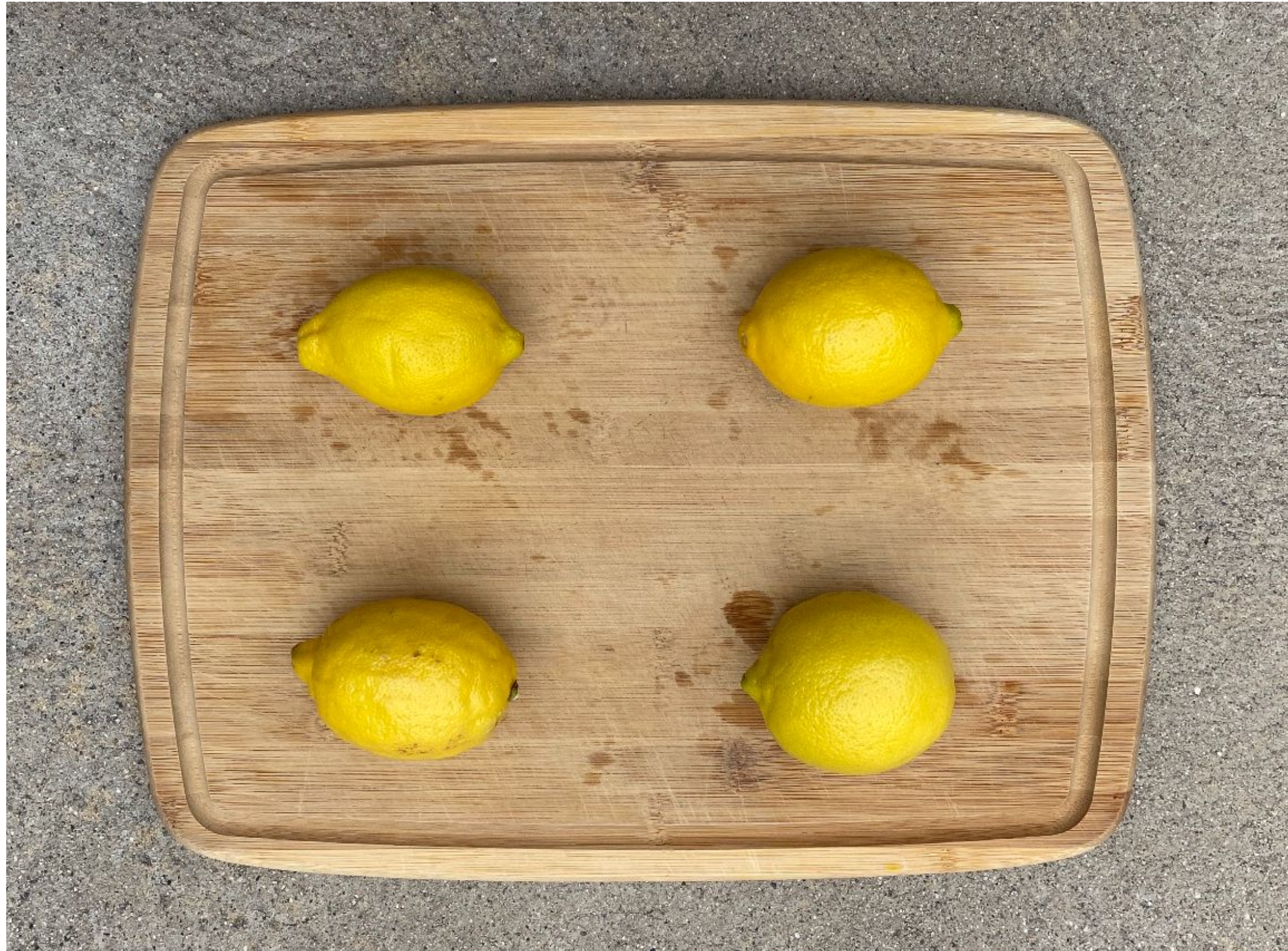
2 people equally
share 3 cookies.

Same and Different



How many people can
get half a cookie?

Same and Different



True or False?

If two people share a cookie they each get a half of a cookie.

True or False?

You can cut a whole cookie into four fourths.

True or False?

Two thirds of a cookie is more than one cookie.

Fractions

Basics, Models, Notation

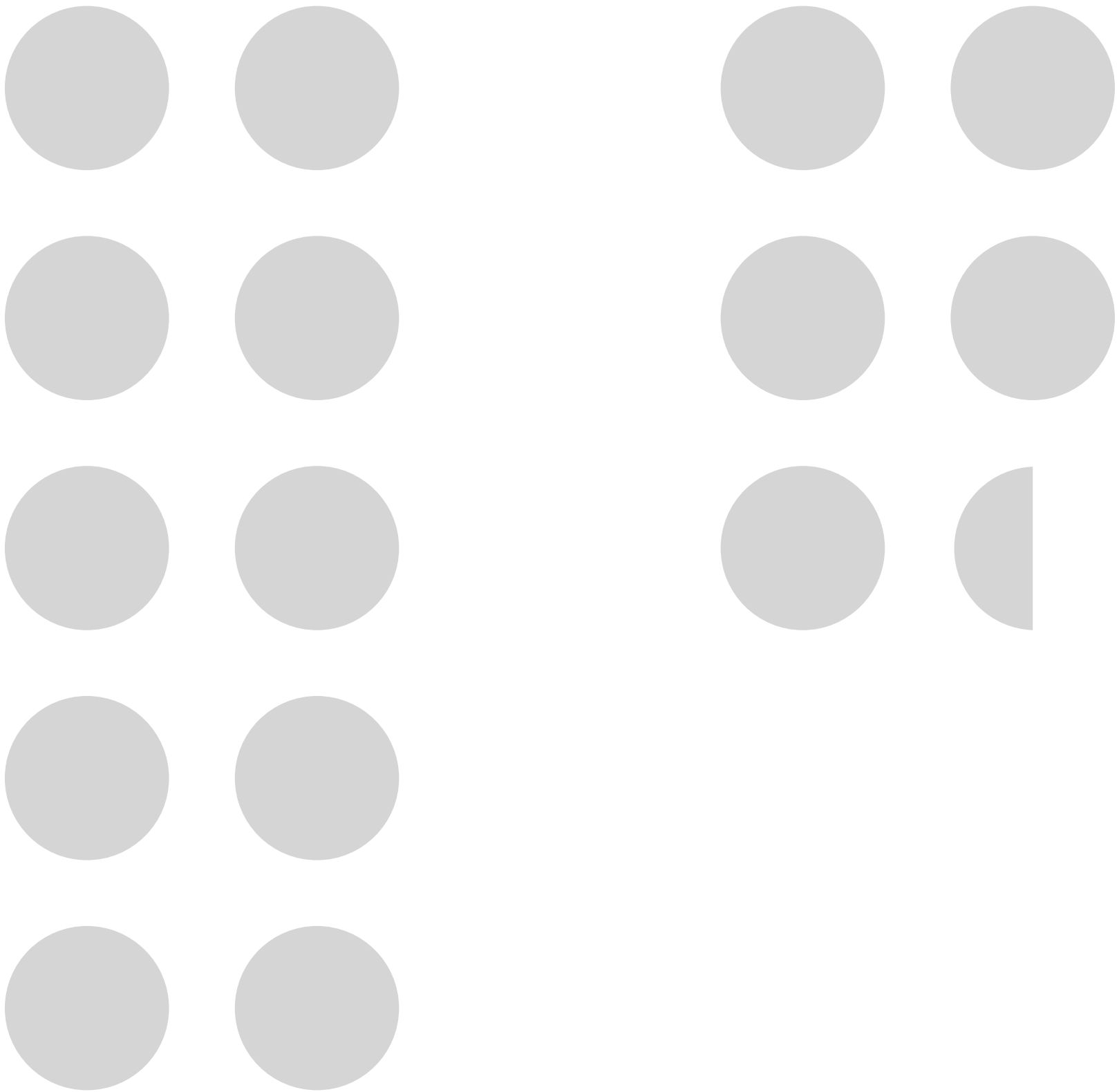
How Much?



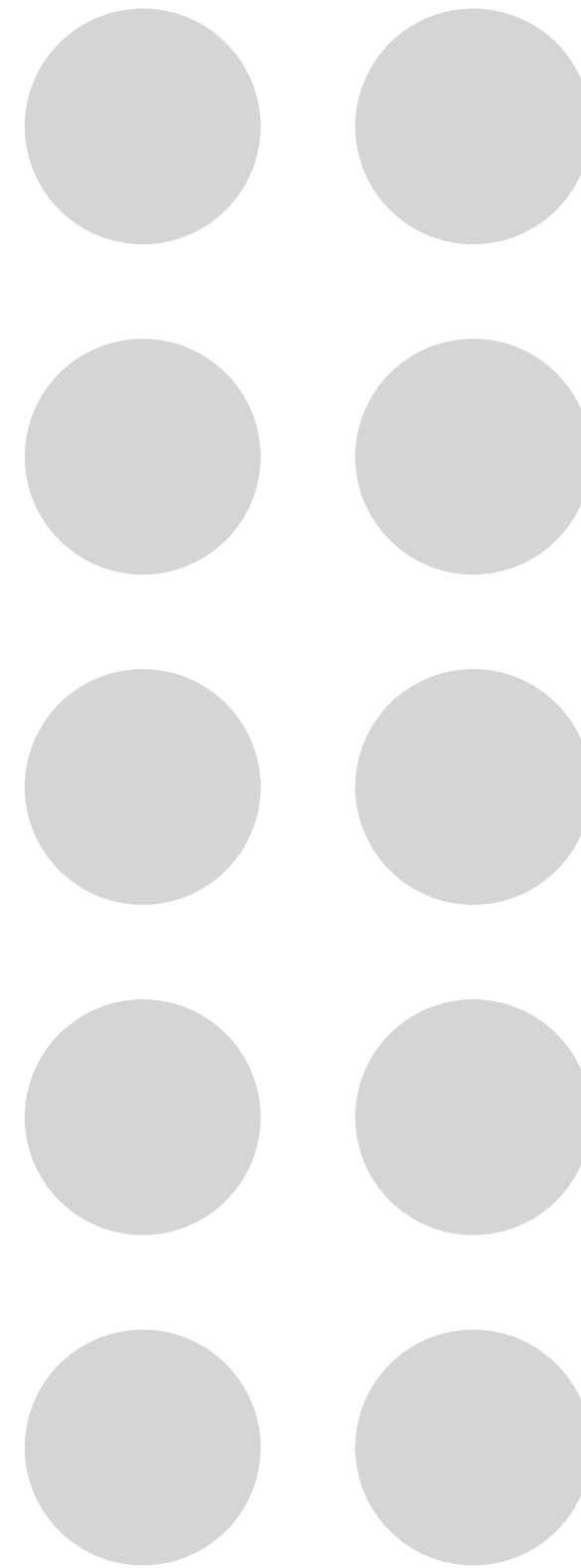
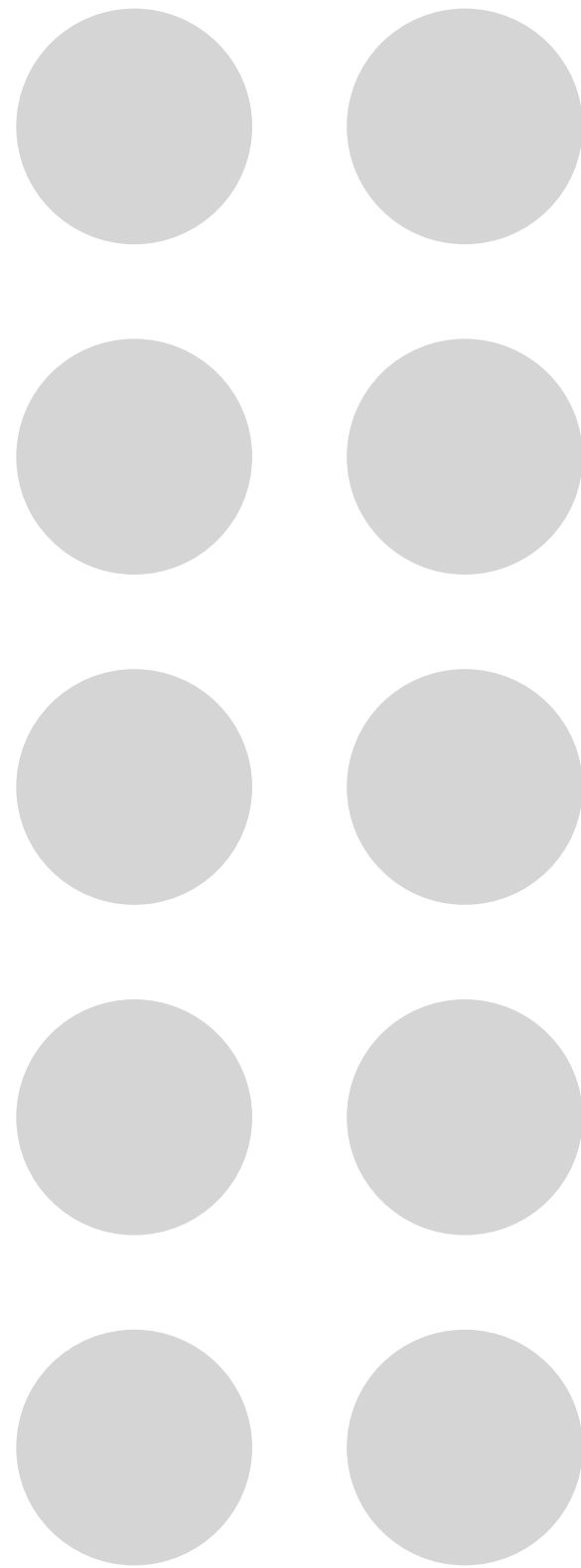
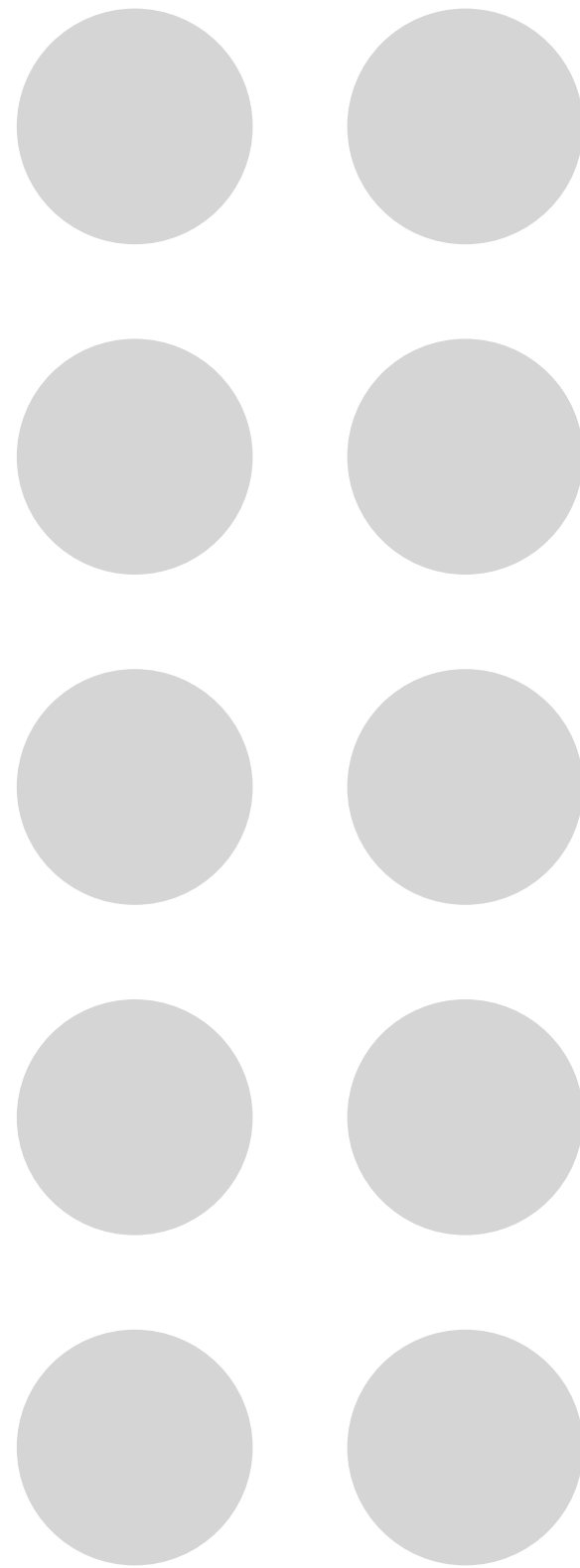
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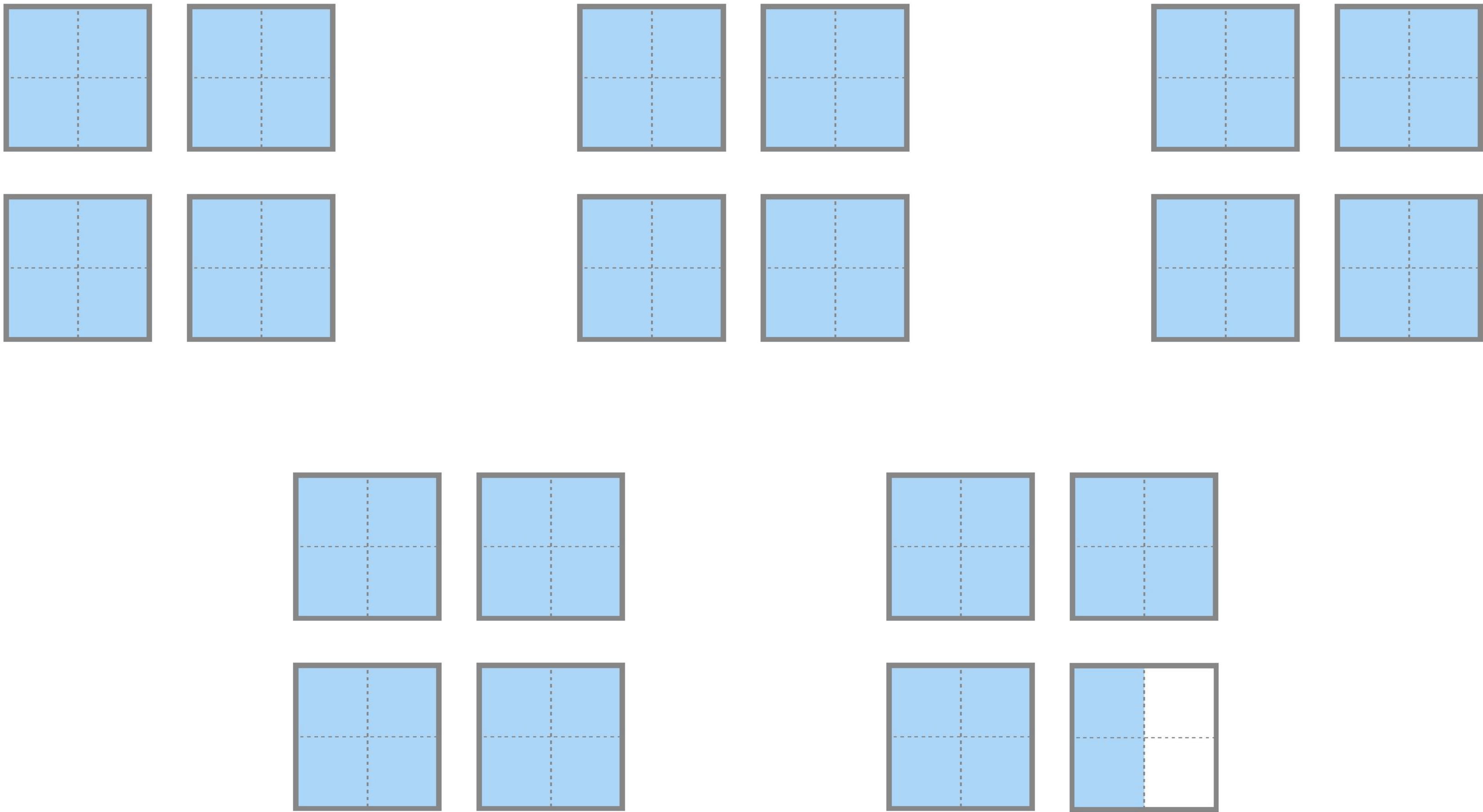
How Much?



How Much?

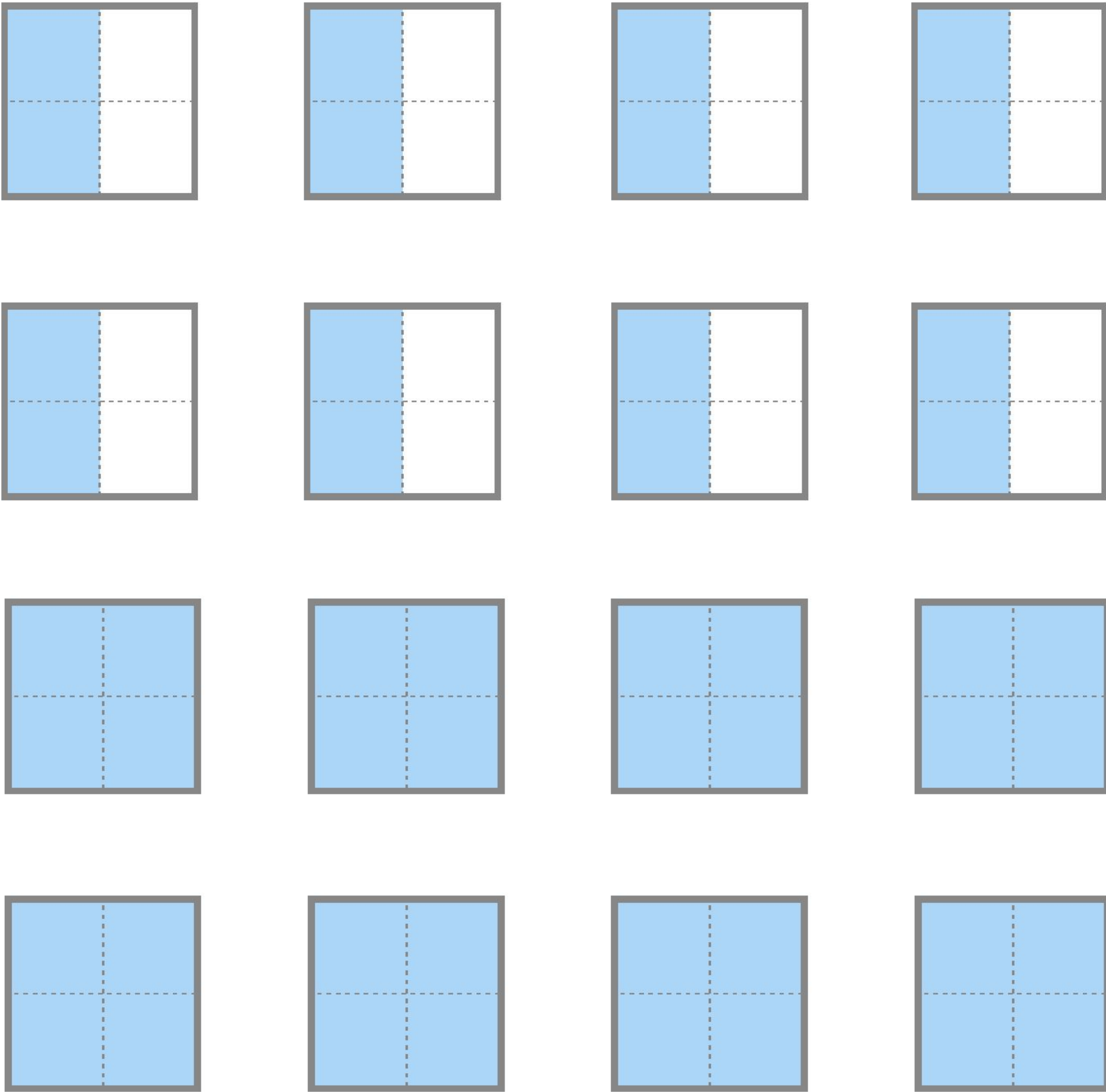


How Much?



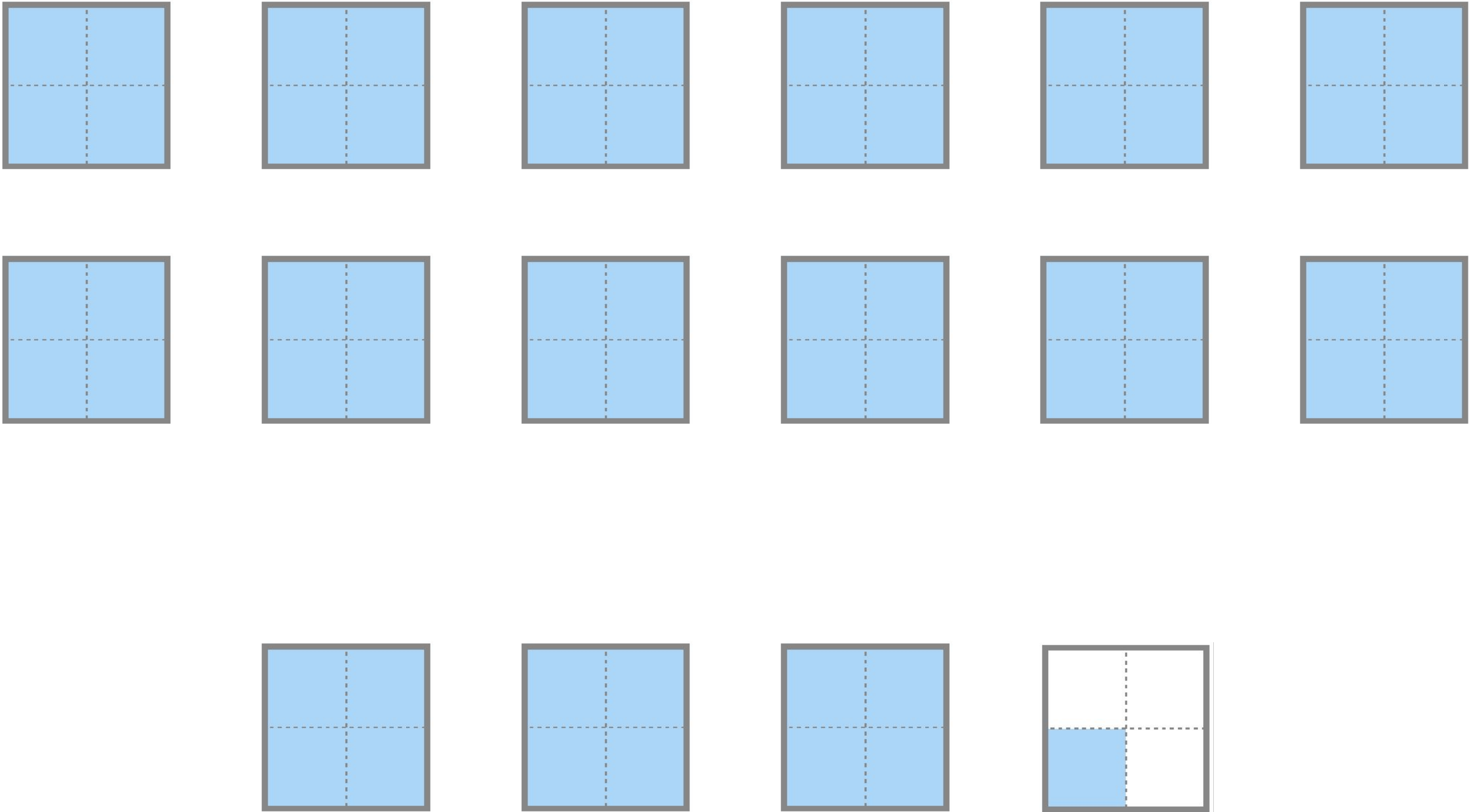
*Each large square
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How Much?



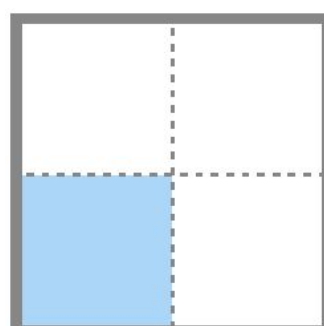
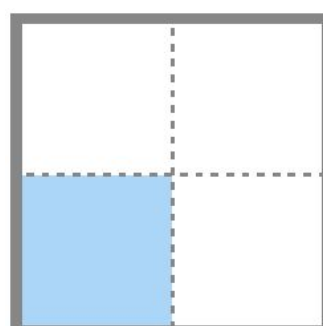
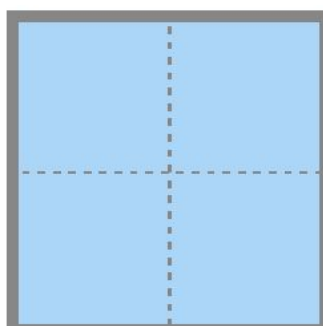
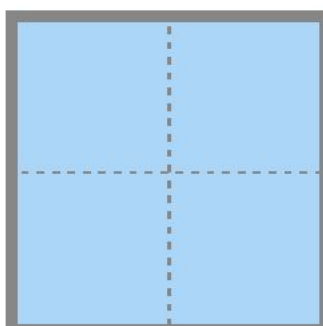
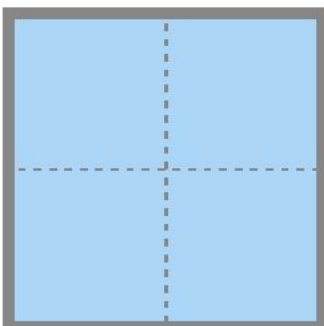
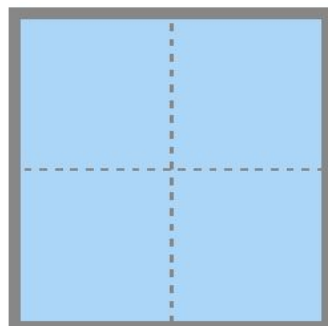
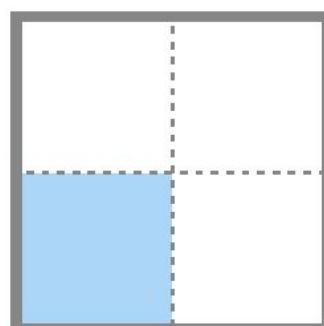
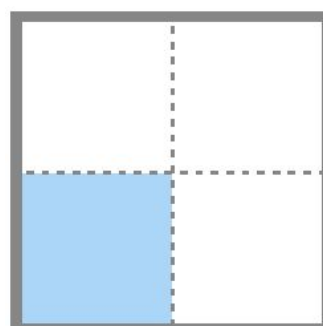
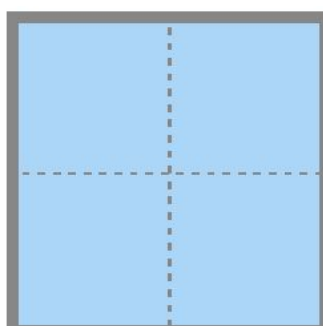
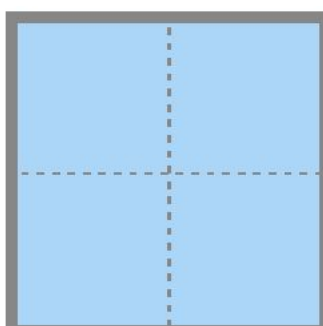
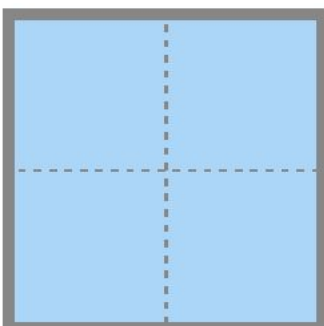
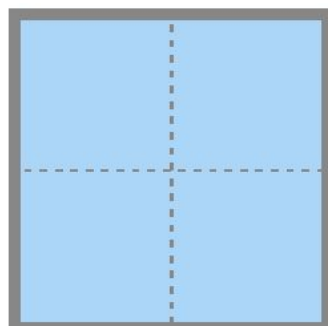
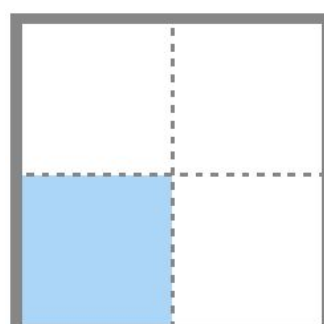
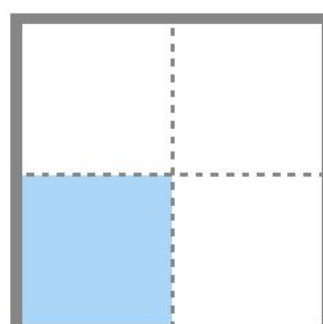
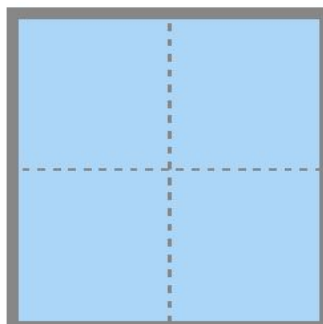
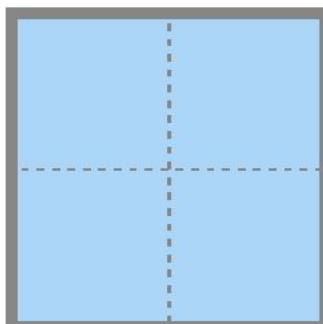
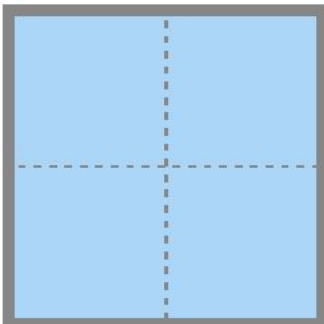
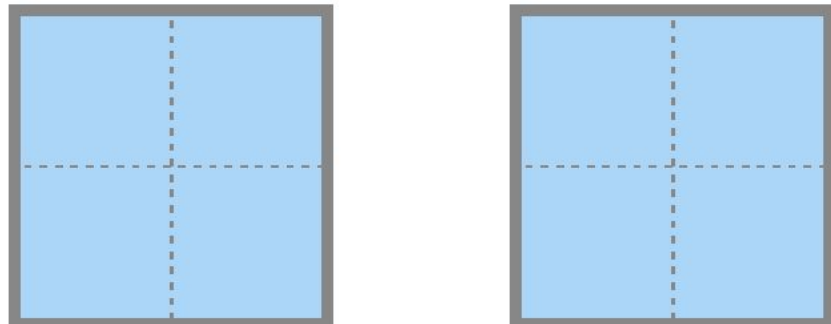
*Each large square
is worth 1*

How Much?



*Each large square
is worth 1*

How Much?



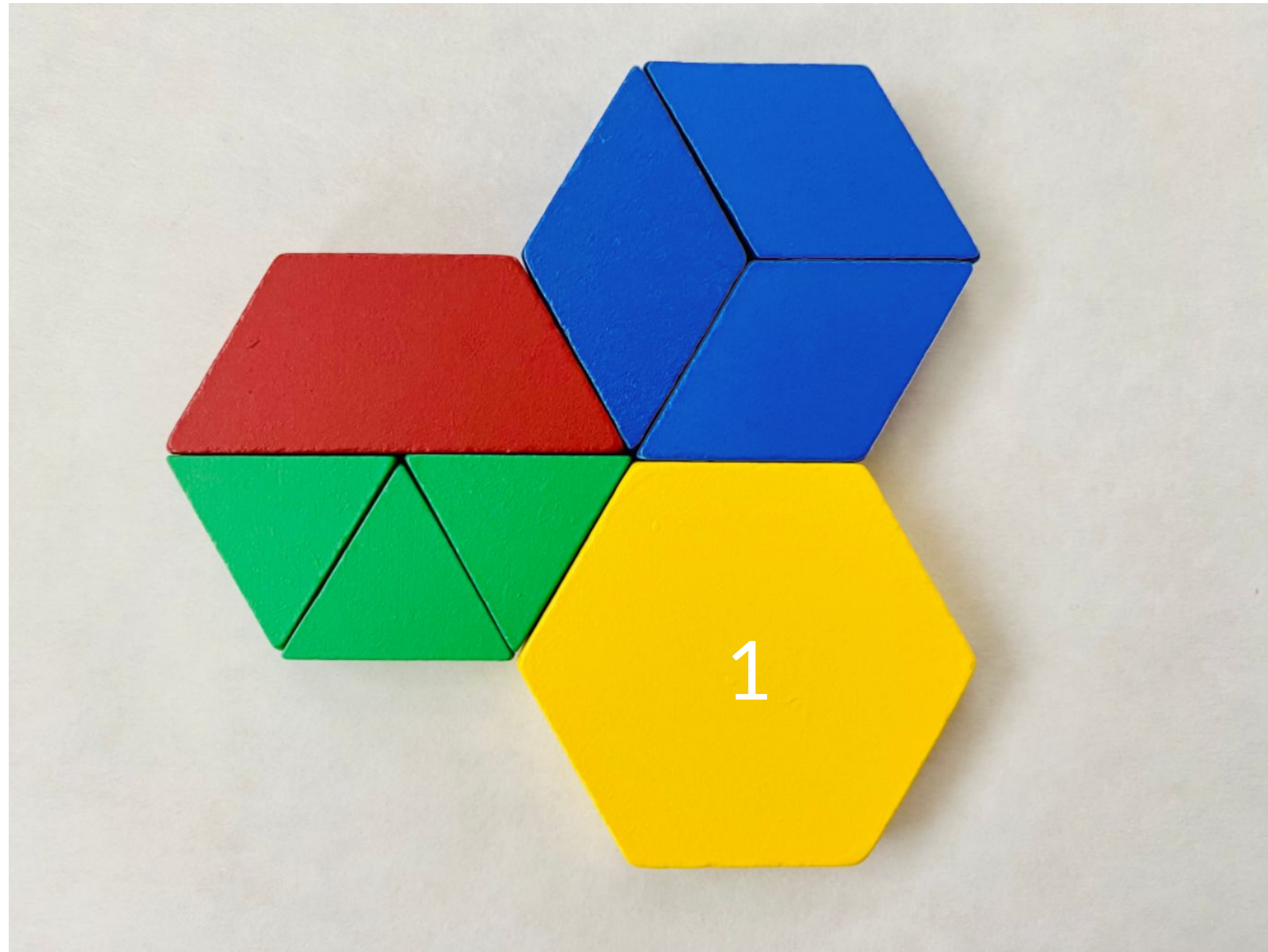
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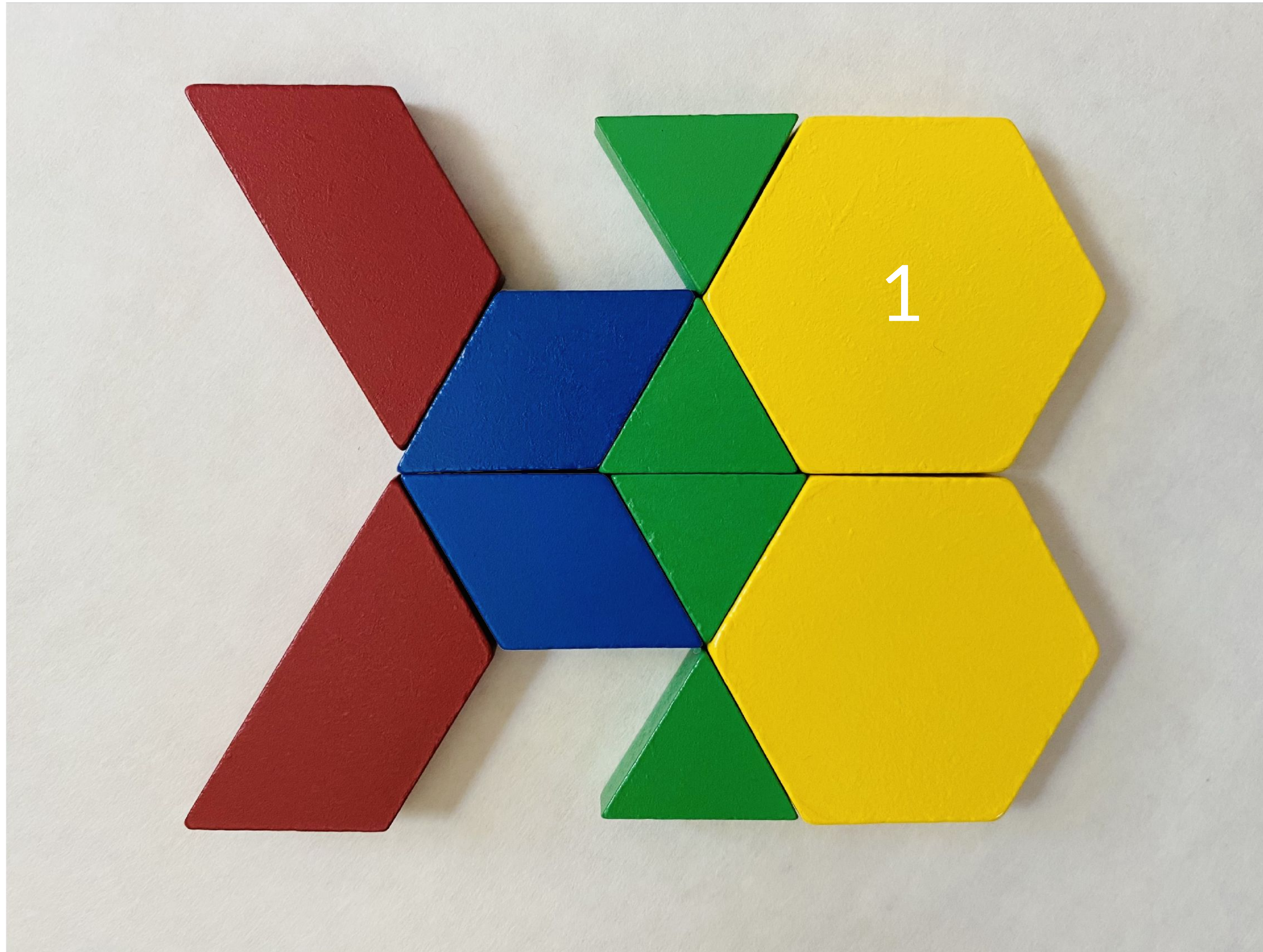
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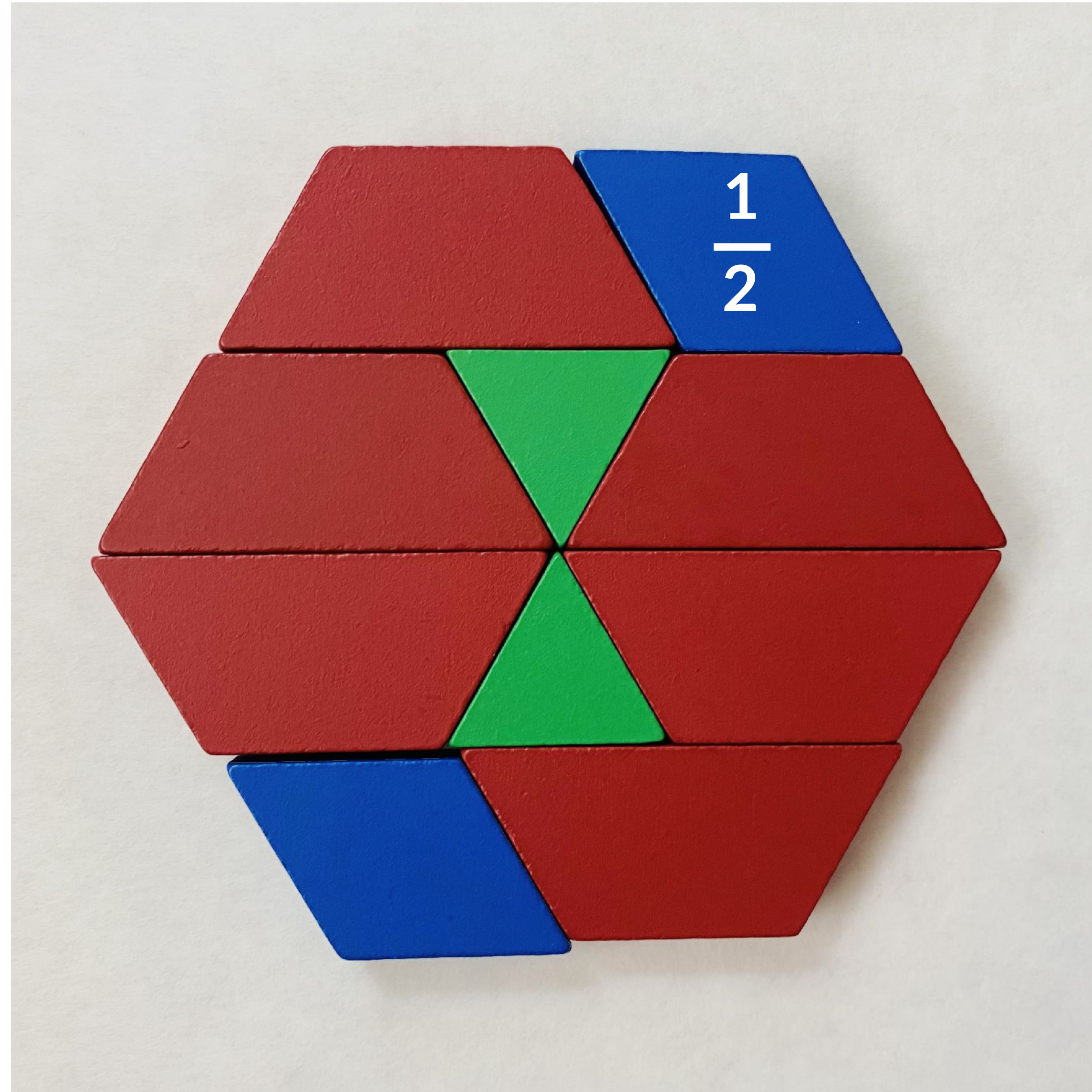
How Much?



How Much?



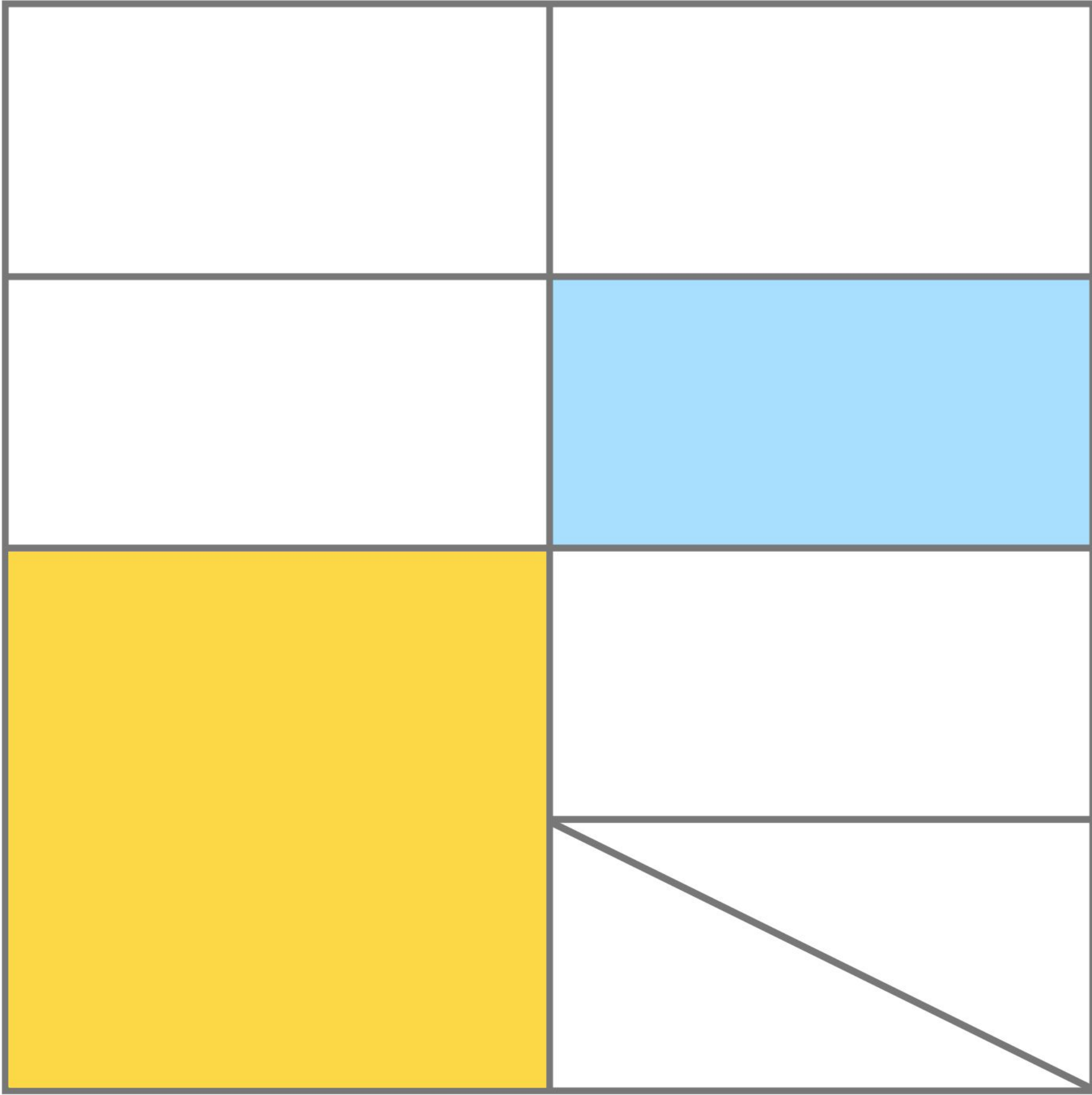
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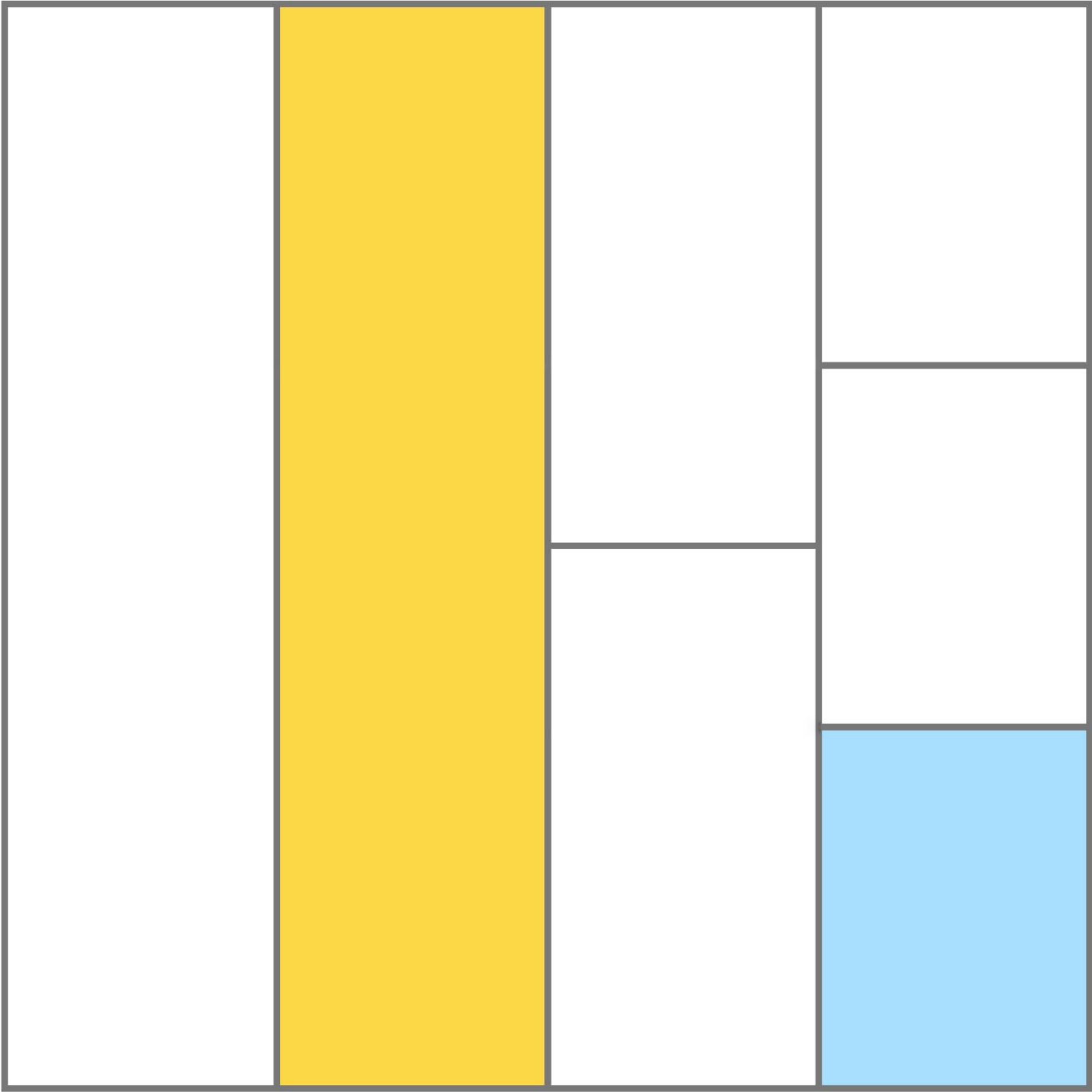
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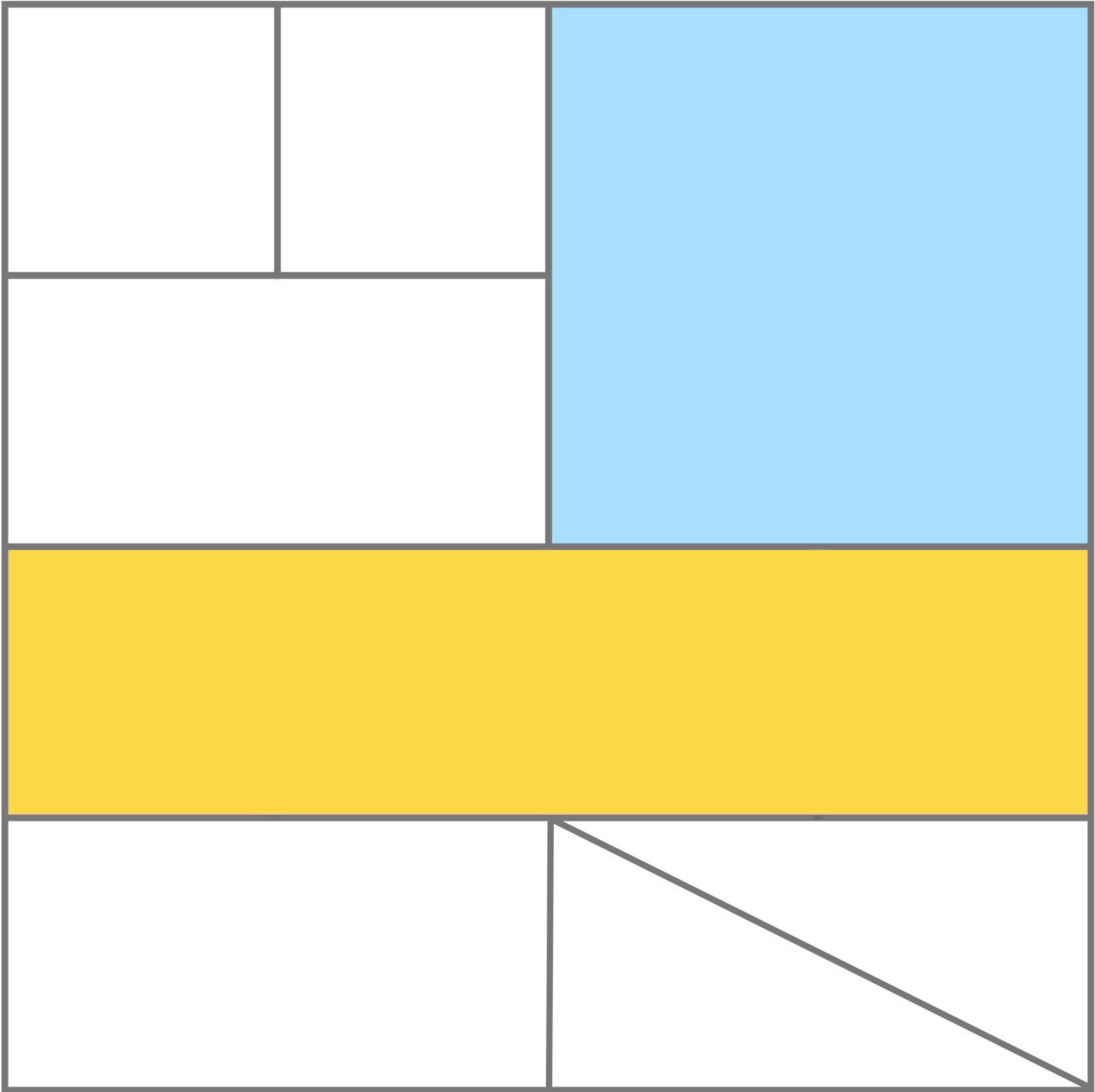
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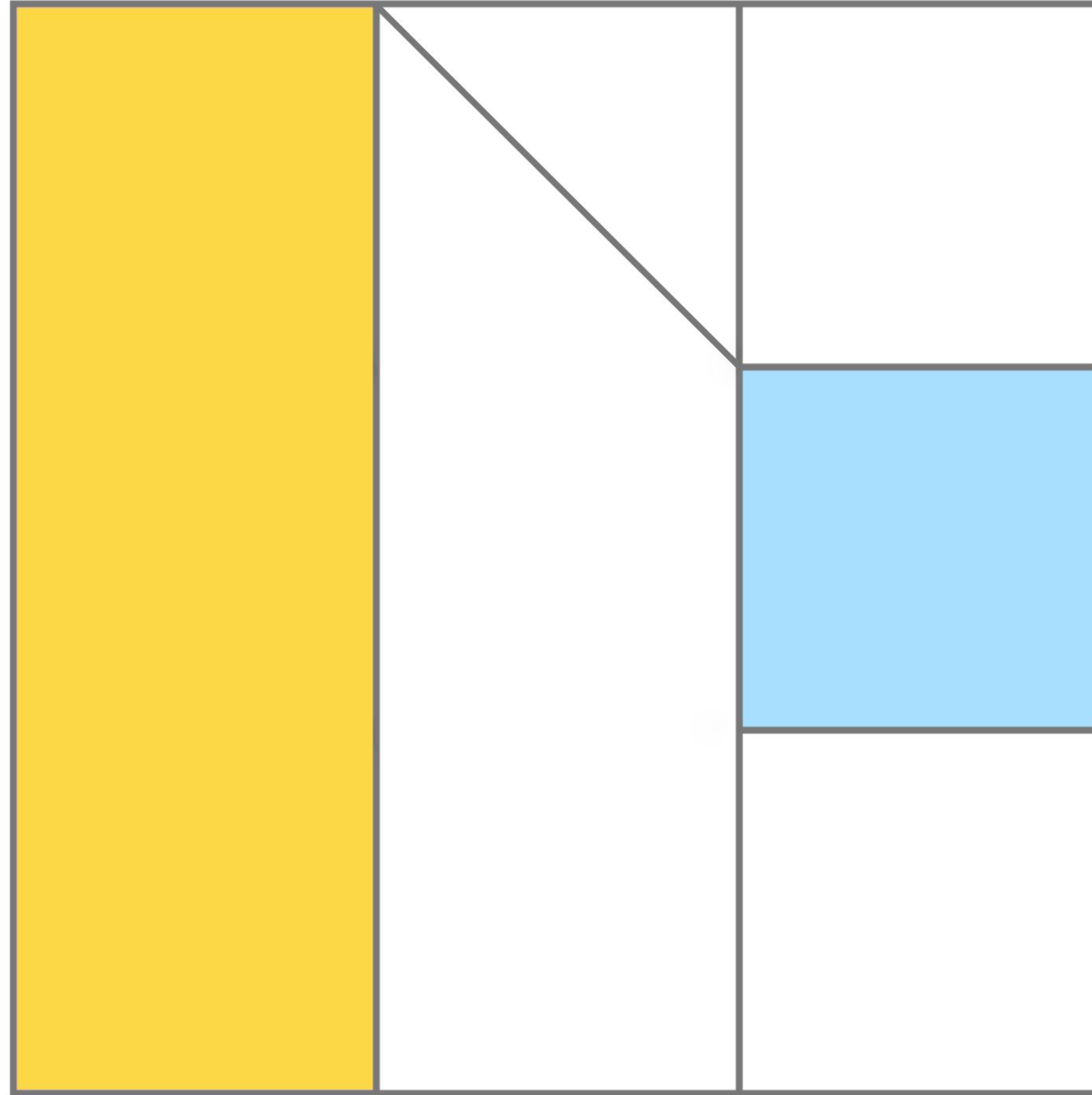
How Much?



How Much?

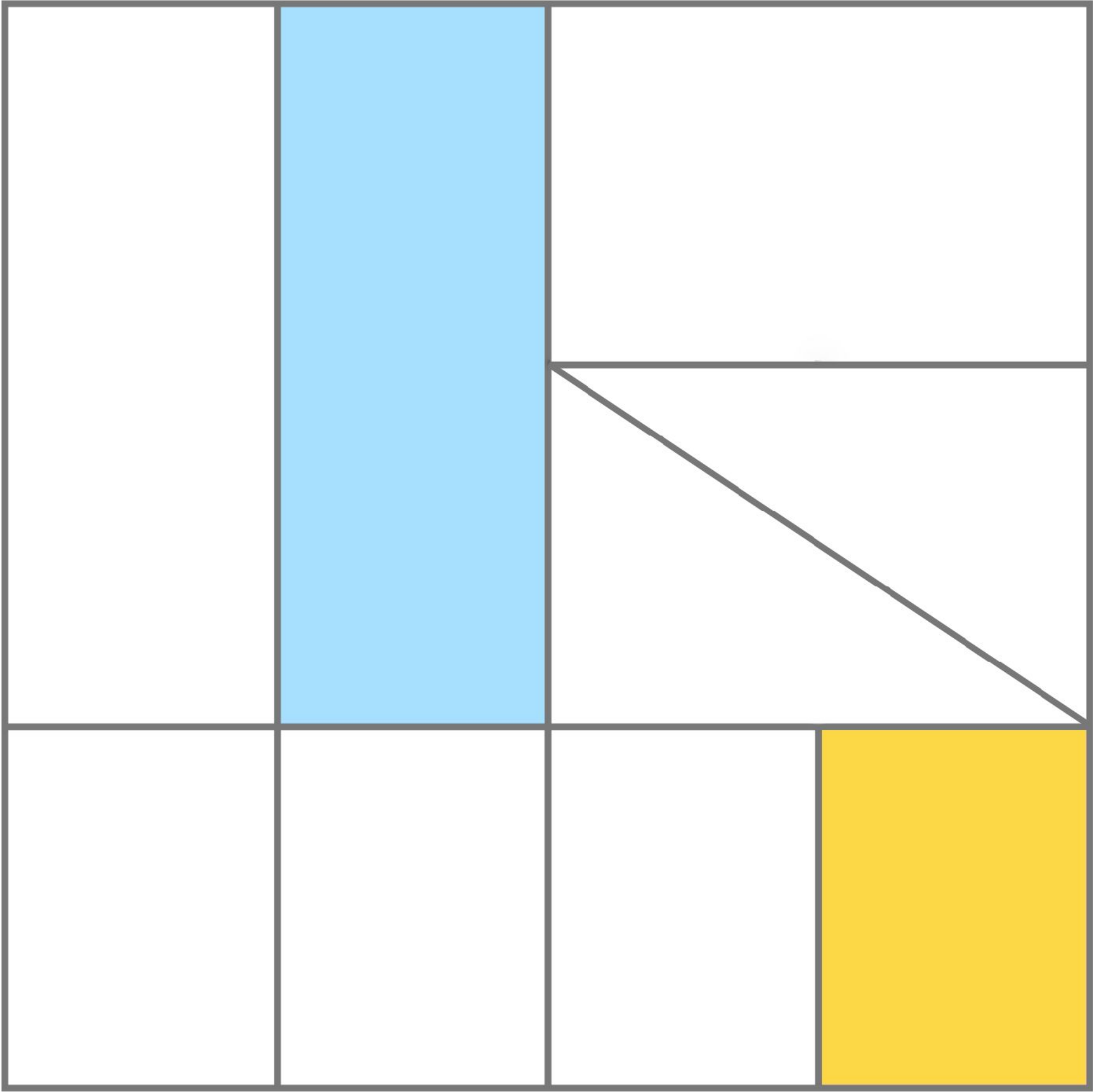


How Much?

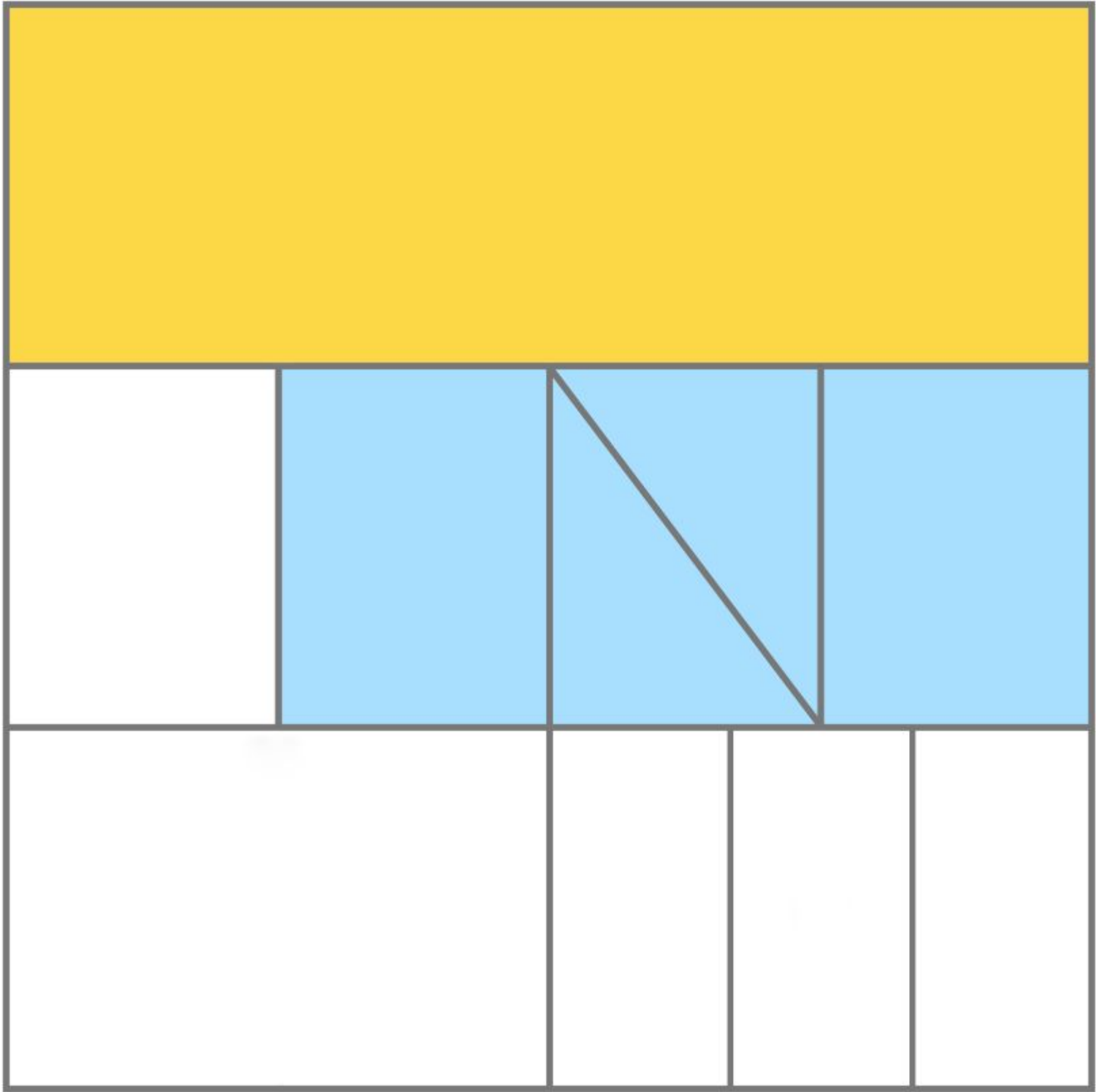


*Large Square
is worth 1*

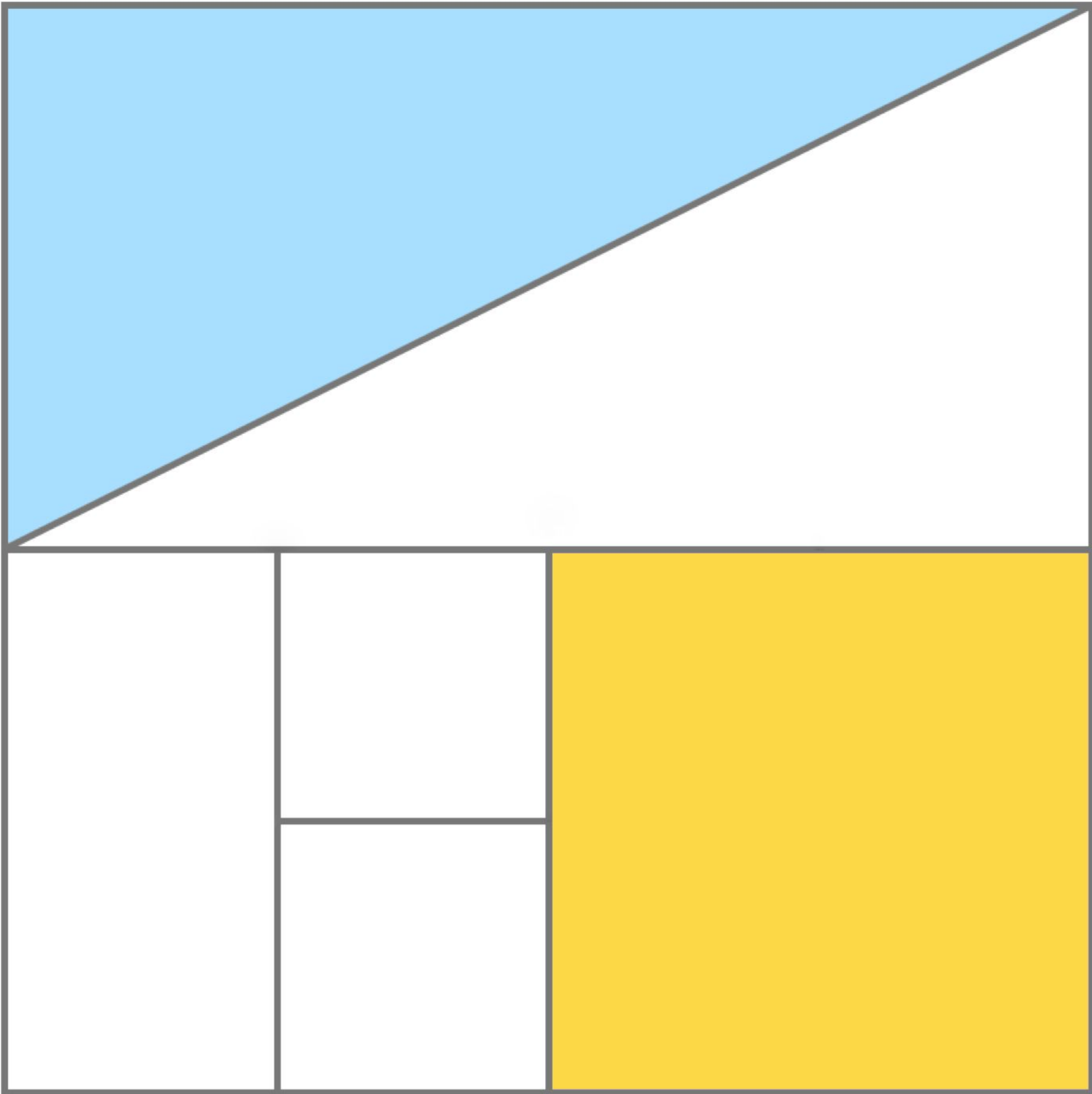
How Much?



How Much?



How Much?



Ways to Make

$$\frac{3}{4}$$

Ways to Make

$$\frac{6}{6}$$

Ways to Make

$$\frac{14}{8}$$

Ways to Make

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

Ways to Make

8 and 2 fourths

Ways to Make

$$5\frac{1}{3}$$



Choral Counting by halves starting at 1 half

1 half

2 halves

3 halves

4 halves

5 halves

6 halves

7 halves

8 halves

9 halves

10 halves

11 halves

12 halves

13 halves

14 halves

15 halves

16 halves





Choral Counting by $\frac{1}{2}$ starting at $\frac{1}{2}$

$$\frac{1}{2}$$

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

$$\frac{3}{2}$$

$$\frac{4}{2}$$

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

$$\frac{6}{2}$$

$$\frac{7}{2}$$

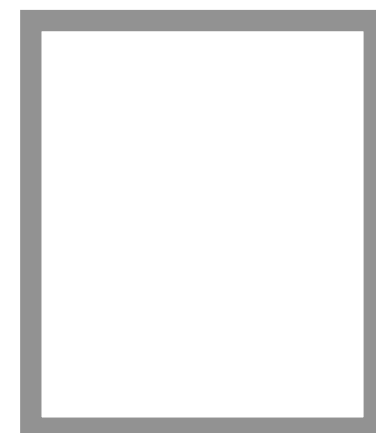
$$\frac{8}{2}$$

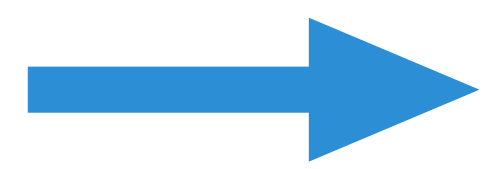
$$\frac{9}{2}$$

$$\frac{10}{2}$$

$$\frac{11}{2}$$

$$\frac{12}{2}$$





Choral Counting by **fourths** starting at **1 fourth**

1 fourth

2 fourths

3 fourths

4 fourths

5 fourths

6 fourths

7 fourths

8 fourths

9 fourths

10 fourths

11 fourths

12 fourths

13 fourths

14 fourths

15 fourths

16 fourths





Choral Counting by $\frac{1}{4}$ starting at $\frac{1}{4}$

$$\frac{1}{4}$$

$$\frac{2}{4}$$

$$\frac{3}{4}$$

$$\frac{4}{4}$$

$$\frac{5}{4}$$

$$\frac{6}{4}$$

$$\frac{7}{4}$$

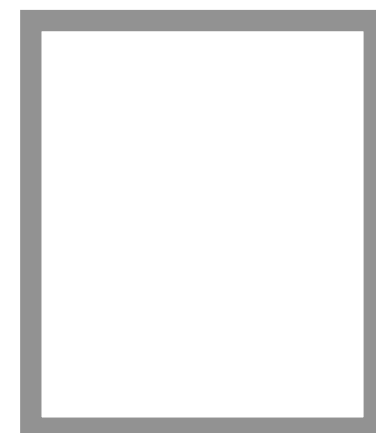
$$\frac{8}{4}$$

$$\frac{9}{4}$$

$$\frac{10}{4}$$

$$\frac{11}{4}$$

$$\frac{12}{4}$$





Choral Counting by $\frac{1}{8}$ starting at $\frac{1}{8}$

$$\frac{1}{8}$$

$$\frac{2}{8}$$

$$\frac{3}{8}$$

$$\frac{4}{8}$$

$$\frac{5}{8}$$

$$\frac{6}{8}$$

$$\frac{7}{8}$$

$$\frac{8}{8}$$

$$\frac{9}{8}$$

$$\frac{10}{8}$$

$$\frac{11}{8}$$

$$\frac{12}{8}$$

$$\frac{13}{8}$$

$$\frac{14}{8}$$

$$\frac{15}{8}$$

$$\frac{16}{8}$$

$$\frac{17}{8}$$

$$\frac{18}{8}$$

$$\frac{19}{8}$$

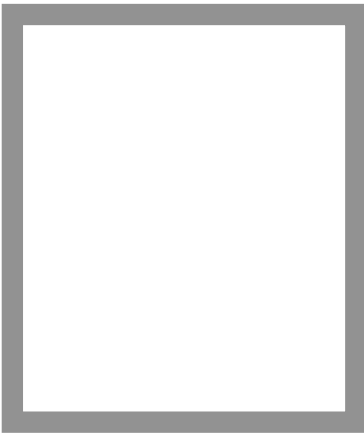
$$\frac{20}{8}$$

$$\frac{21}{8}$$

$$\frac{22}{8}$$

$$\frac{23}{8}$$

$$\frac{24}{8}$$



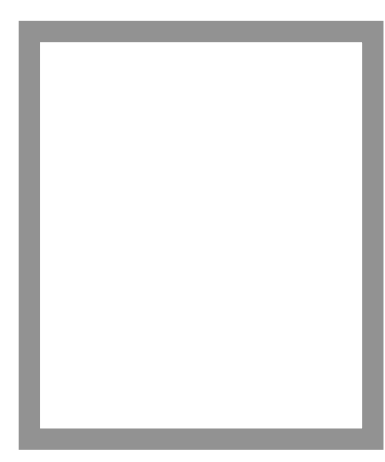


Choral Counting by $\frac{2}{3}$ starting at $\frac{2}{3}$

$\frac{2}{3}$	$\frac{4}{3}$	$\frac{6}{3}$	$\frac{8}{3}$	$\frac{10}{3}$	$\frac{12}{3}$
---------------	---------------	---------------	---------------	----------------	----------------

$\frac{14}{3}$	$\frac{16}{3}$	$\frac{18}{3}$	$\frac{20}{3}$	$\frac{22}{3}$	$\frac{24}{3}$
----------------	----------------	----------------	----------------	----------------	----------------

$\frac{26}{3}$	$\frac{28}{3}$	$\frac{30}{3}$	$\frac{32}{3}$	$\frac{34}{3}$	$\frac{36}{3}$
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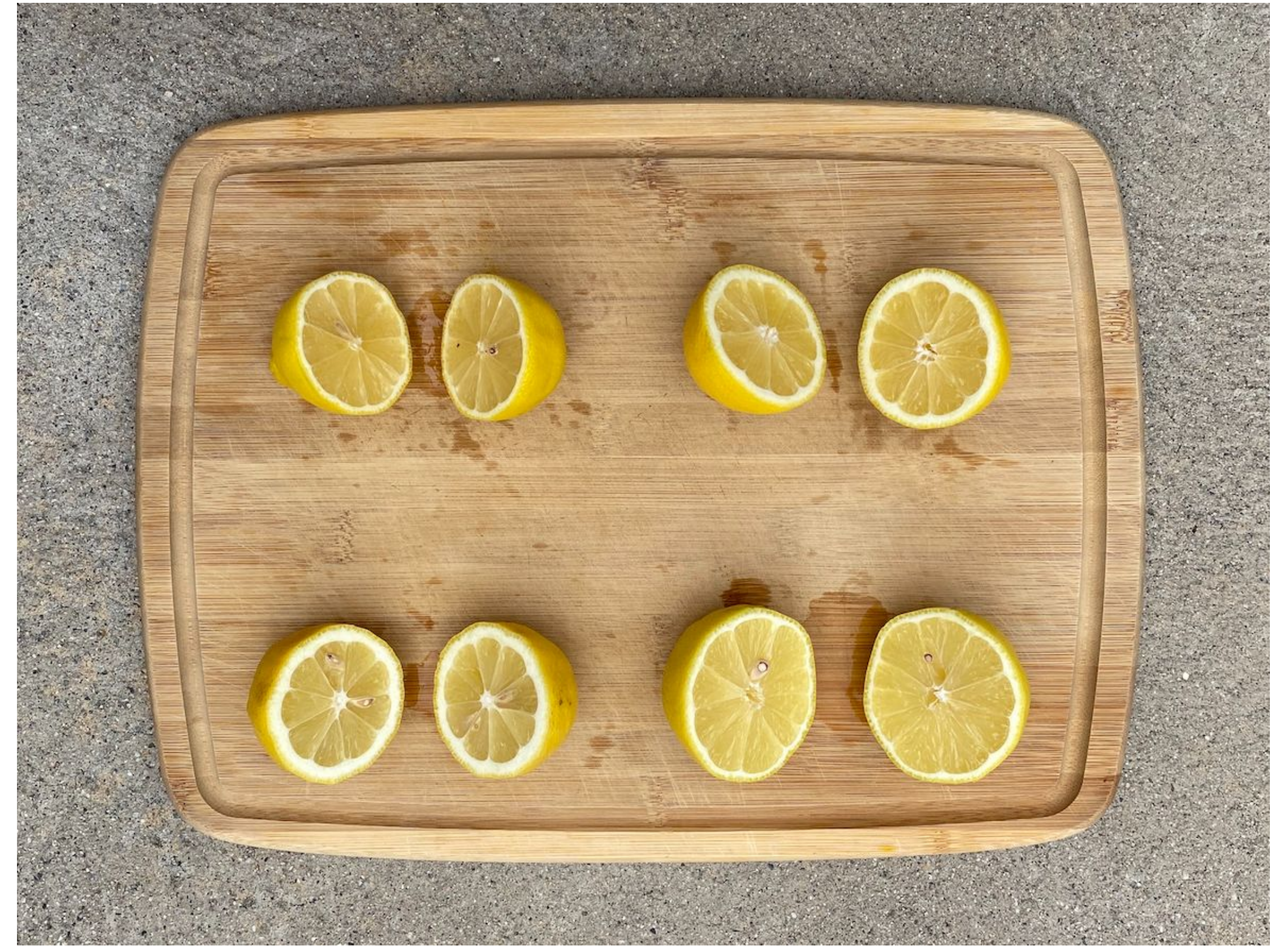
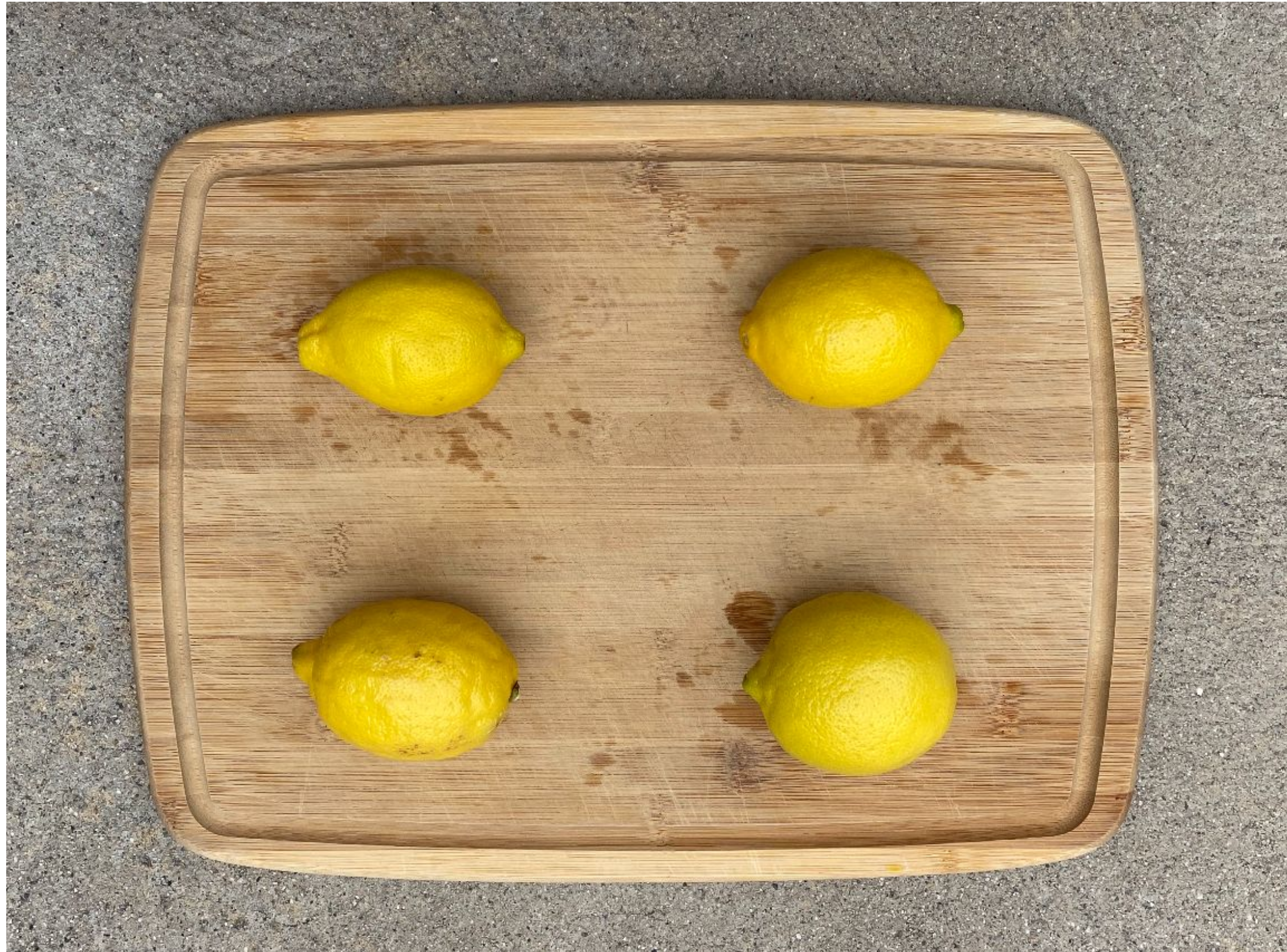




Focus:

Context / Representation

Same and Different



Same and Different



Same and Different



2 people equally
share 3 cookies.

Same and Different



4 people equally
share 2 cookies.

Same and Different



8 people equally
share some cookies.

Same and Different



How many people can
get half a cookie if we
have ____ cookies?

Same and Different



4 friends share
2 burritos

$\frac{1}{2}$ burrito

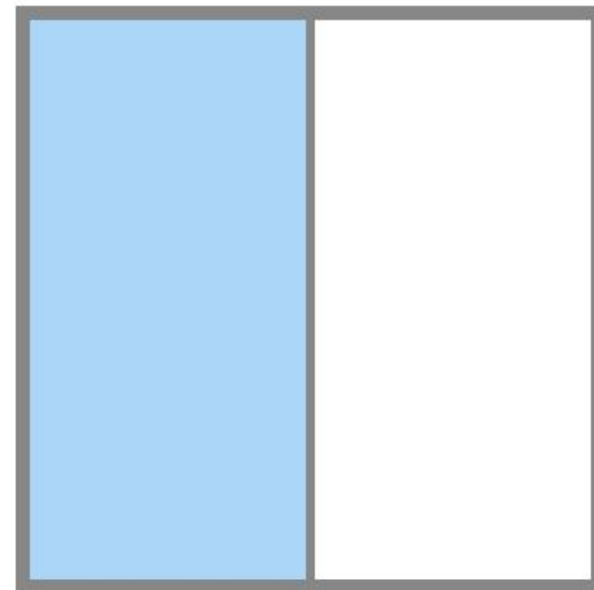
Same and Different

**3 people share 3
brownies equally.**

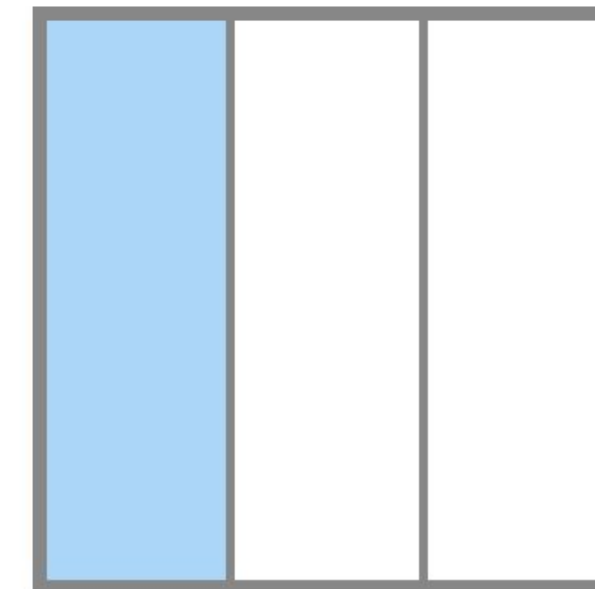
**1 brownie split equally
between 3 people.**

Same and Different

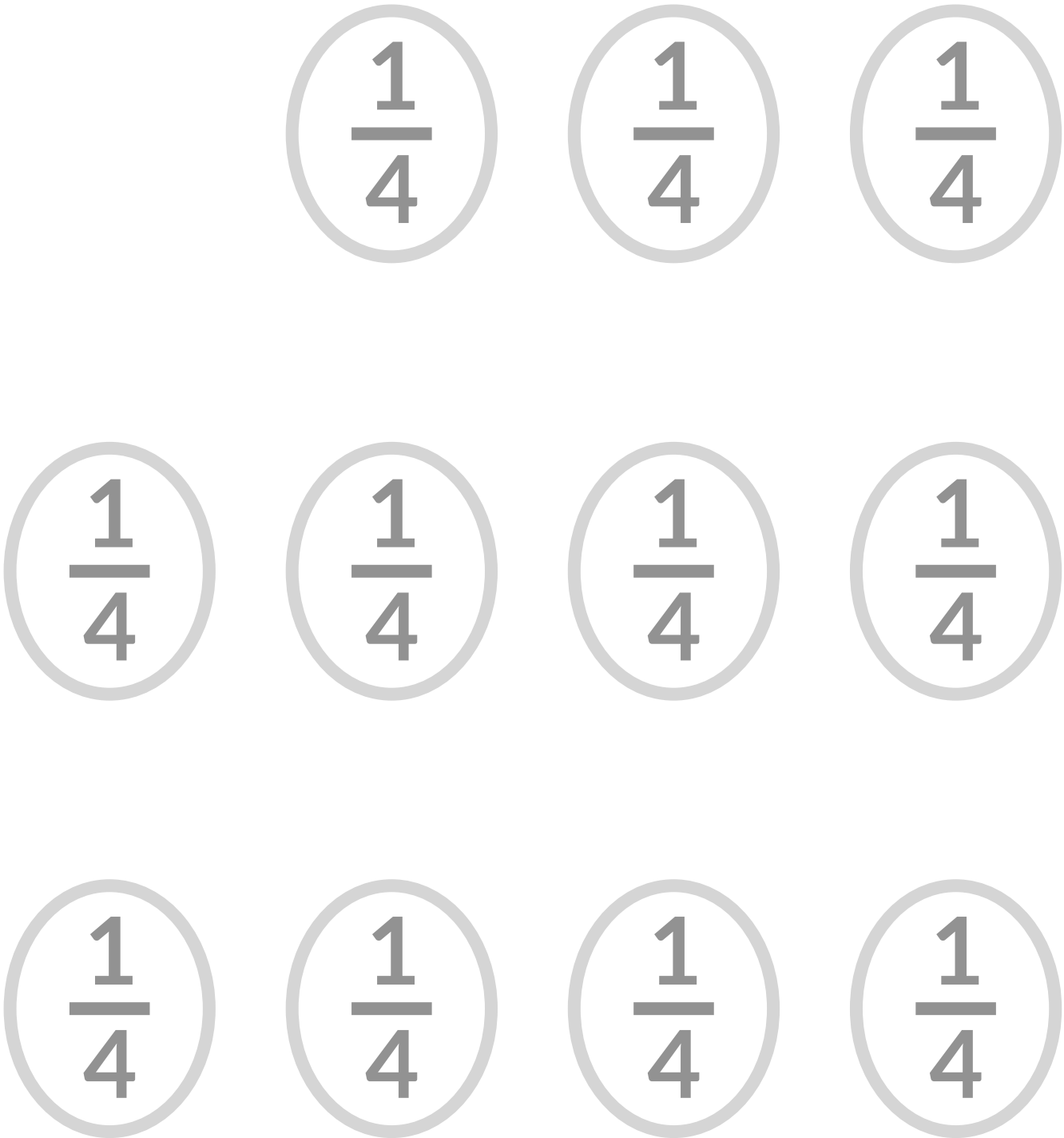
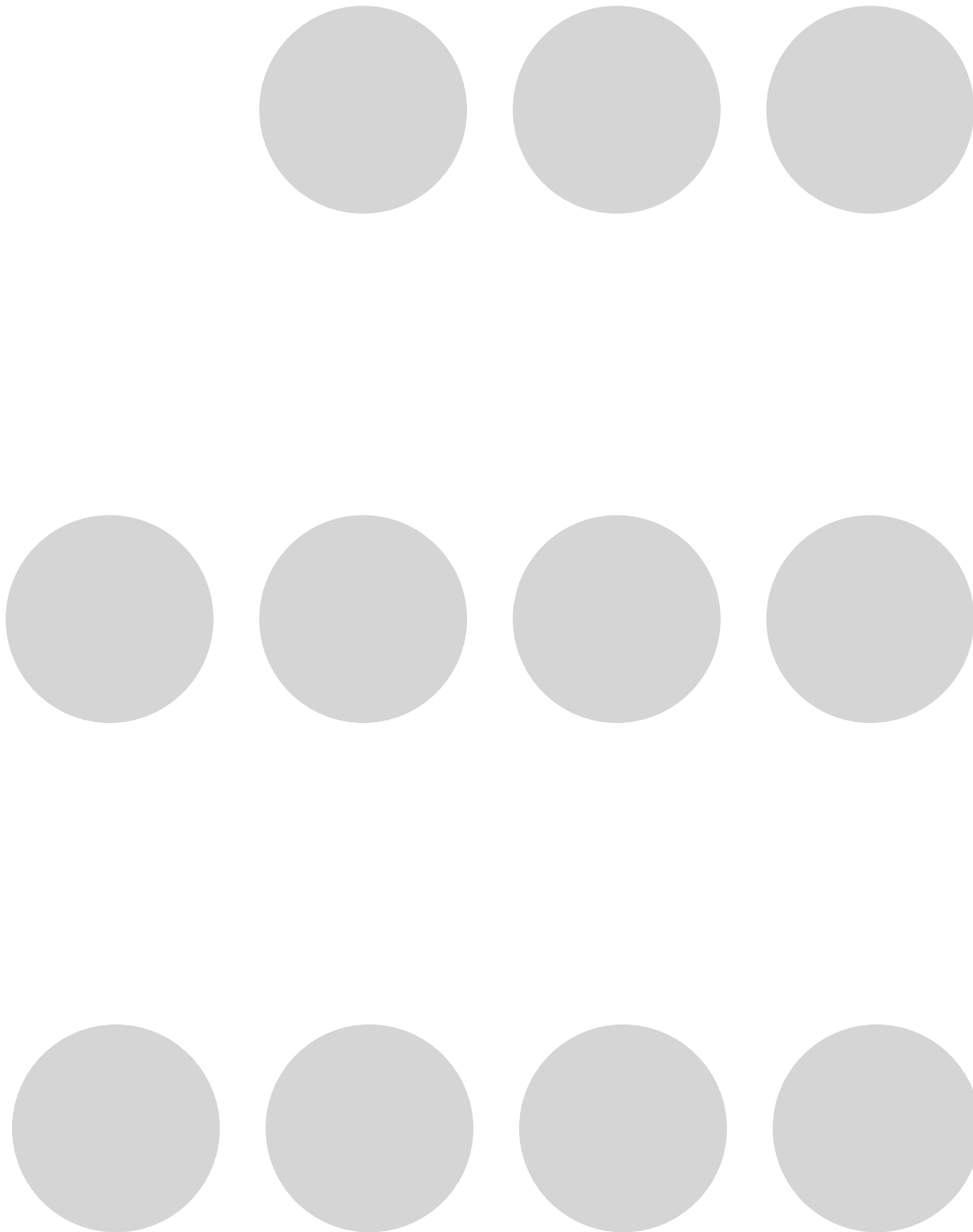
2 people equally share 1
items and each person gets:



___ people equally share ___
items and each person gets:



Same and Different

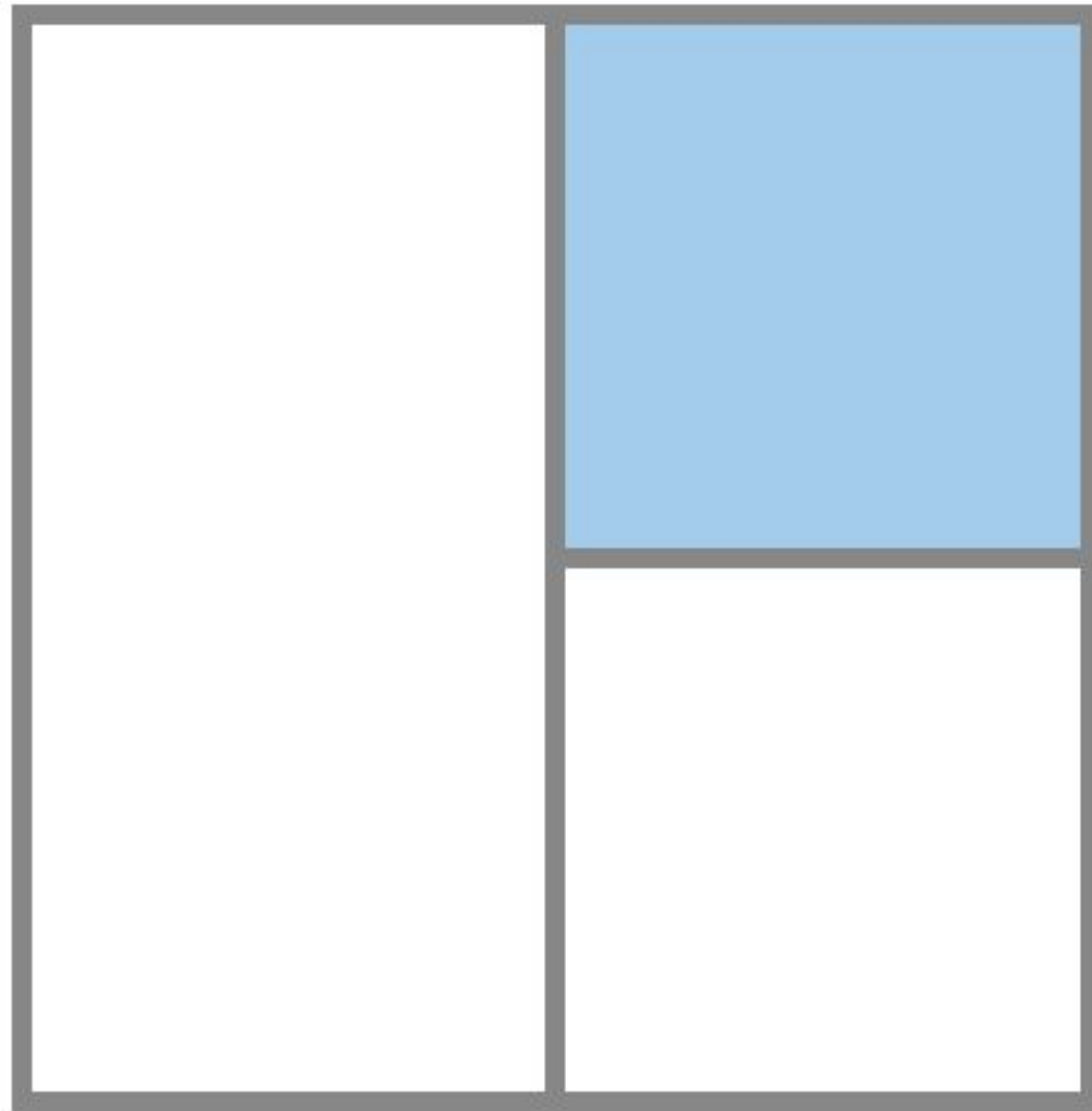


Same and Different



$$\frac{3}{4}$$

Same and Different



**3 people equally
share a cake.**

Same and Different

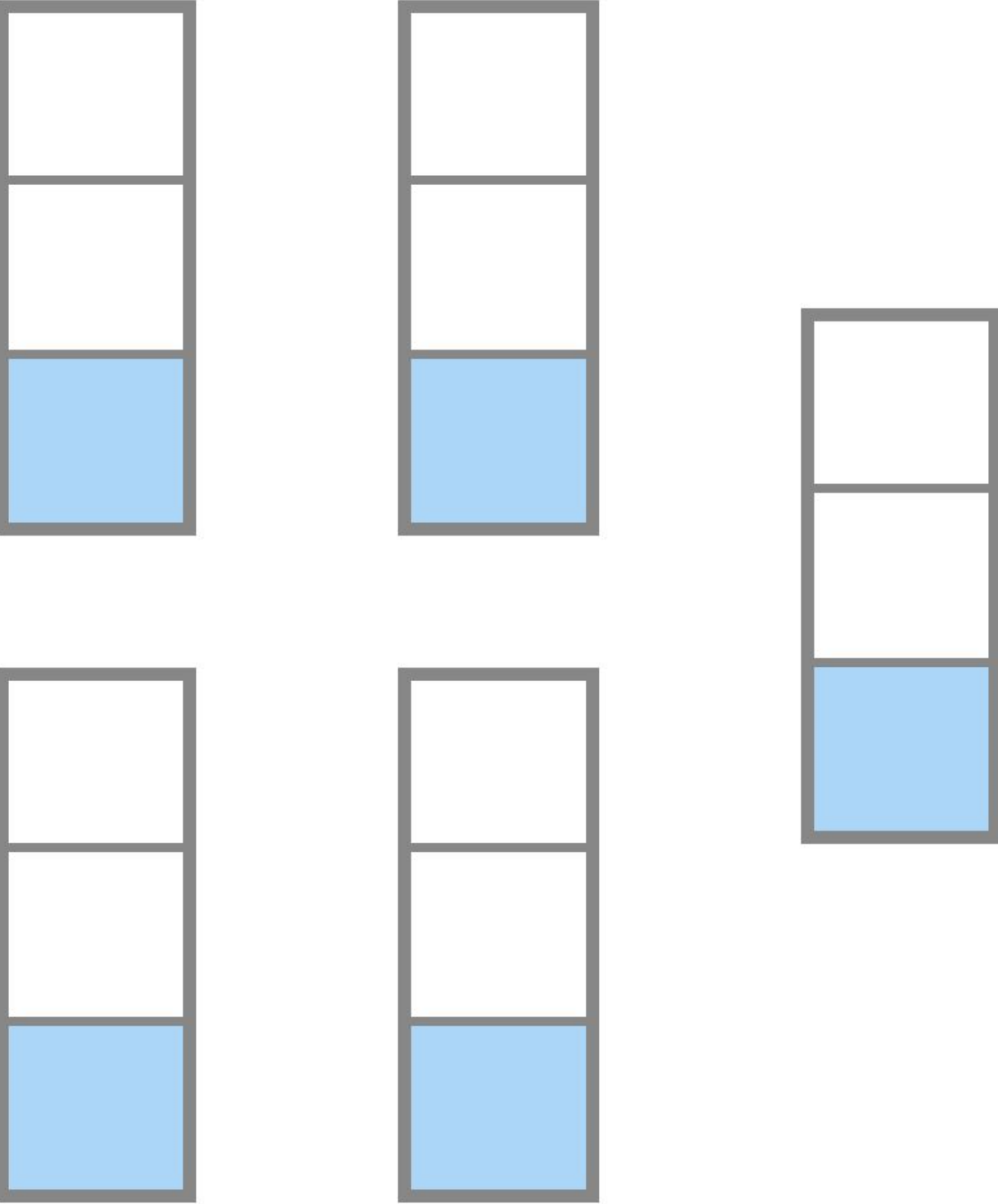


4 groups of
one-sixth

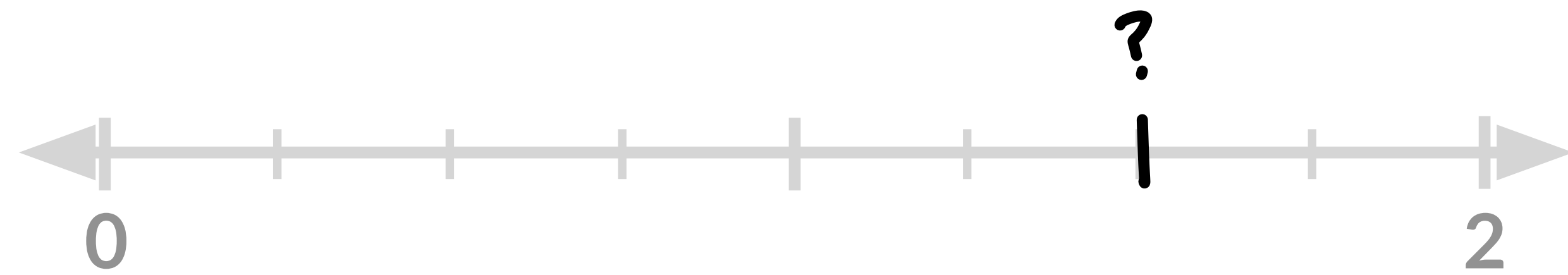
$$\frac{4}{6}$$

Same and Different

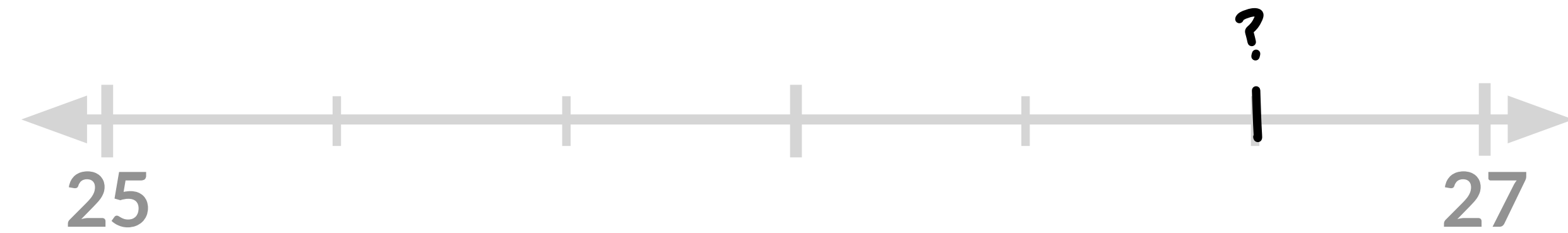
Three fifths



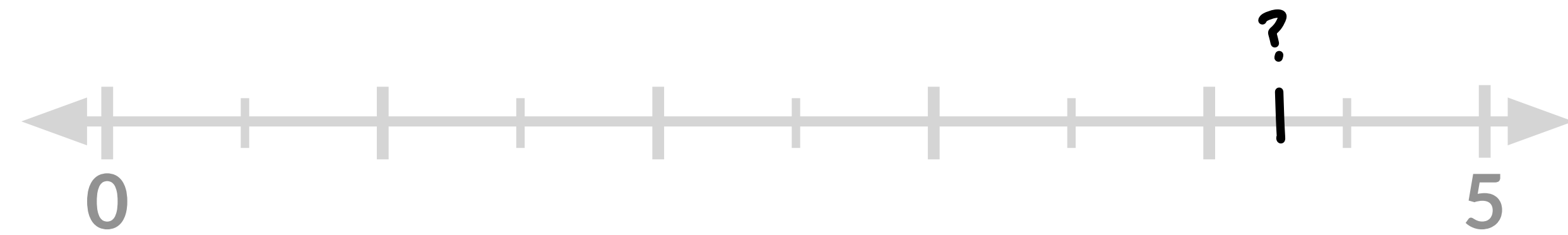
Same and Different



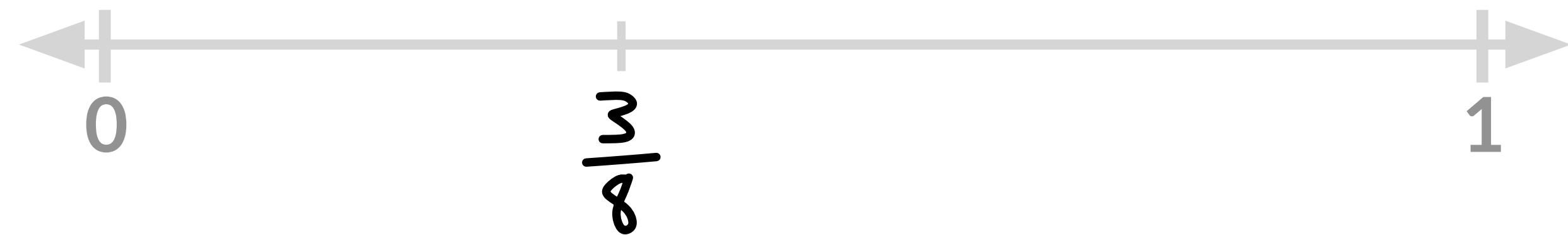
Same and Different



Same and Different



Same and Different



Same and Different

$$1 + 1 + 1 = 3$$

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$$

True or False?

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

$$2 = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

$$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \underline{\hspace{2cm}}$$

True or False?

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$$

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

$$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \underline{\hspace{2cm}}$$

True or False?

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

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

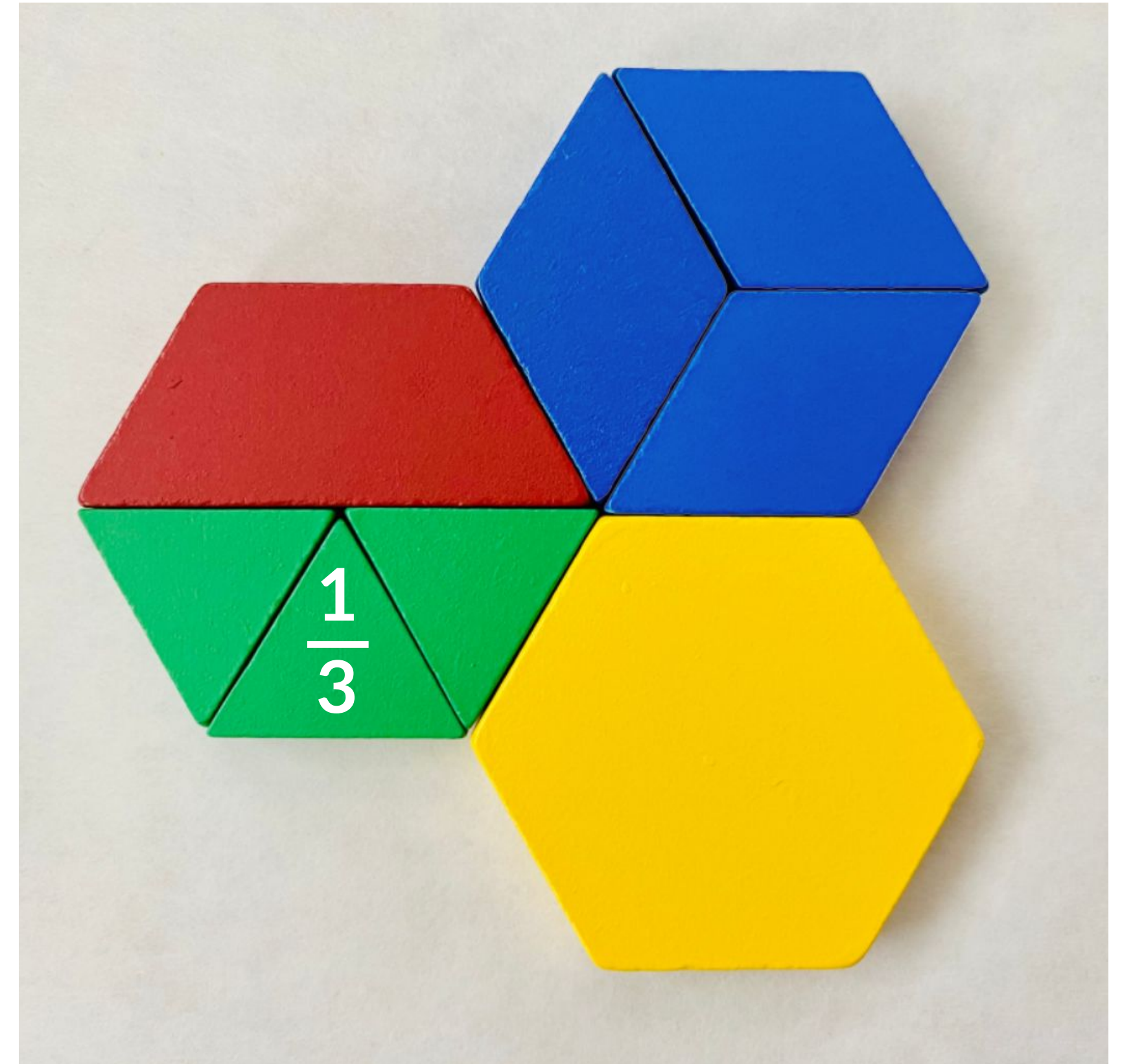
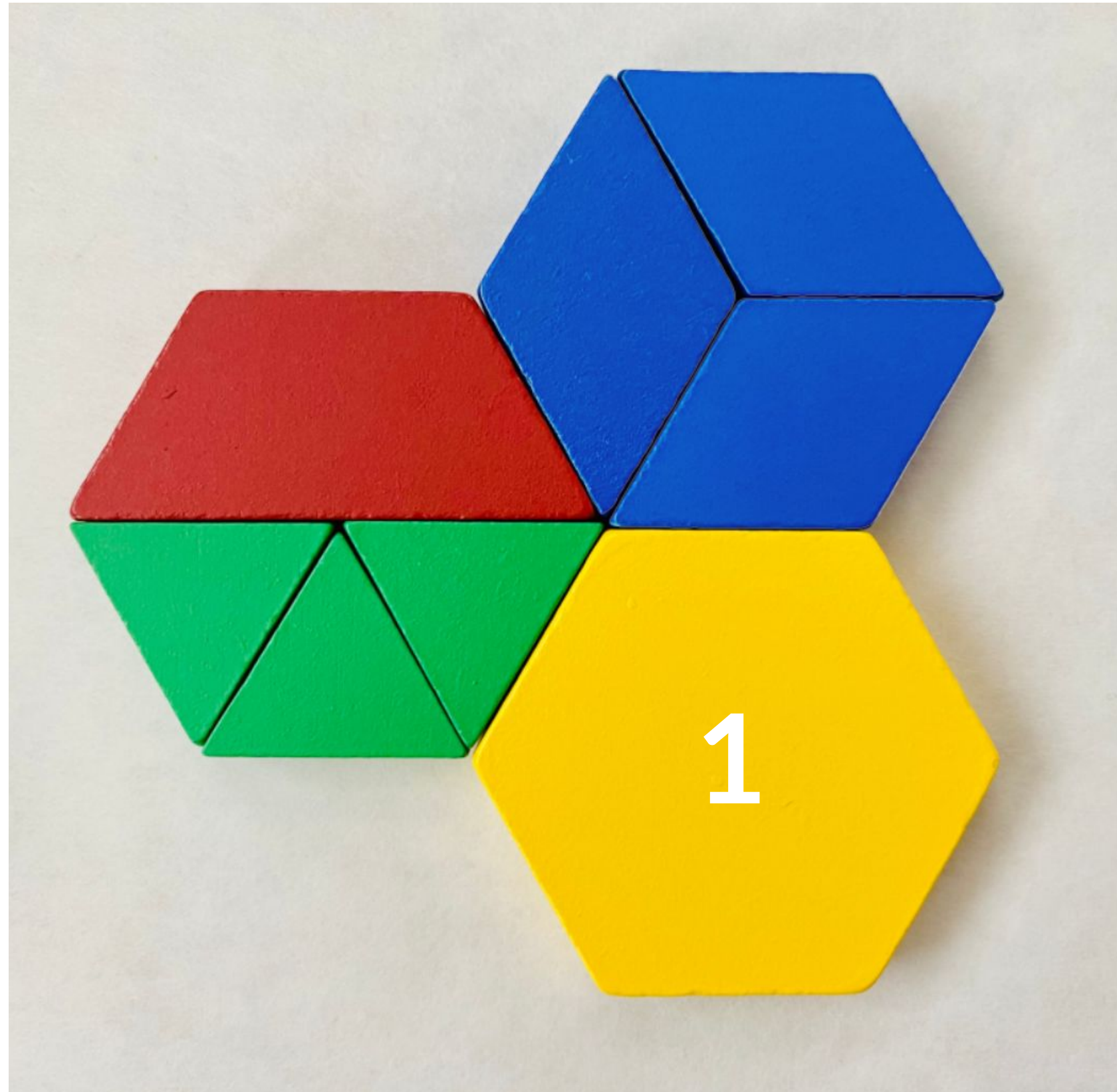
$$\underline{\hspace{1cm}} \times \frac{1}{8} = \frac{6}{8}$$



Focus:

Meaning of the Whole

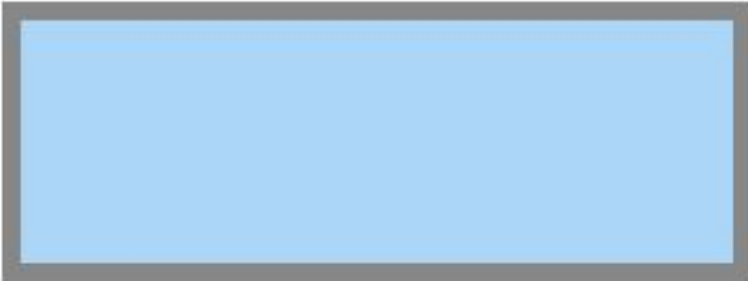
Same and Different



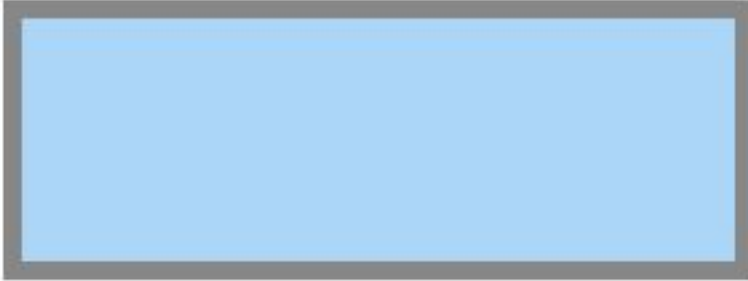
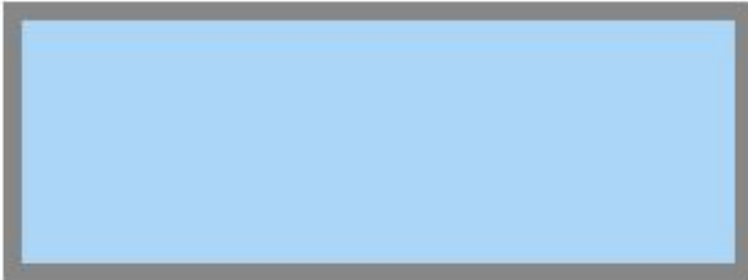
Same and Different



*1 full rectangle
is worth 1:*



*2 full rectangles
are worth 1:*



Same and Different



One fourth of a
small pizza.

$\frac{1}{4}$ of a large pizza.

A green gradient triangle pointing downwards, located in the top right corner of the slide.

Focus:

Connection to Whole Number Operations

Same and Different



$\frac{1}{4}$ apple

$1 \div 4$

Same and Different

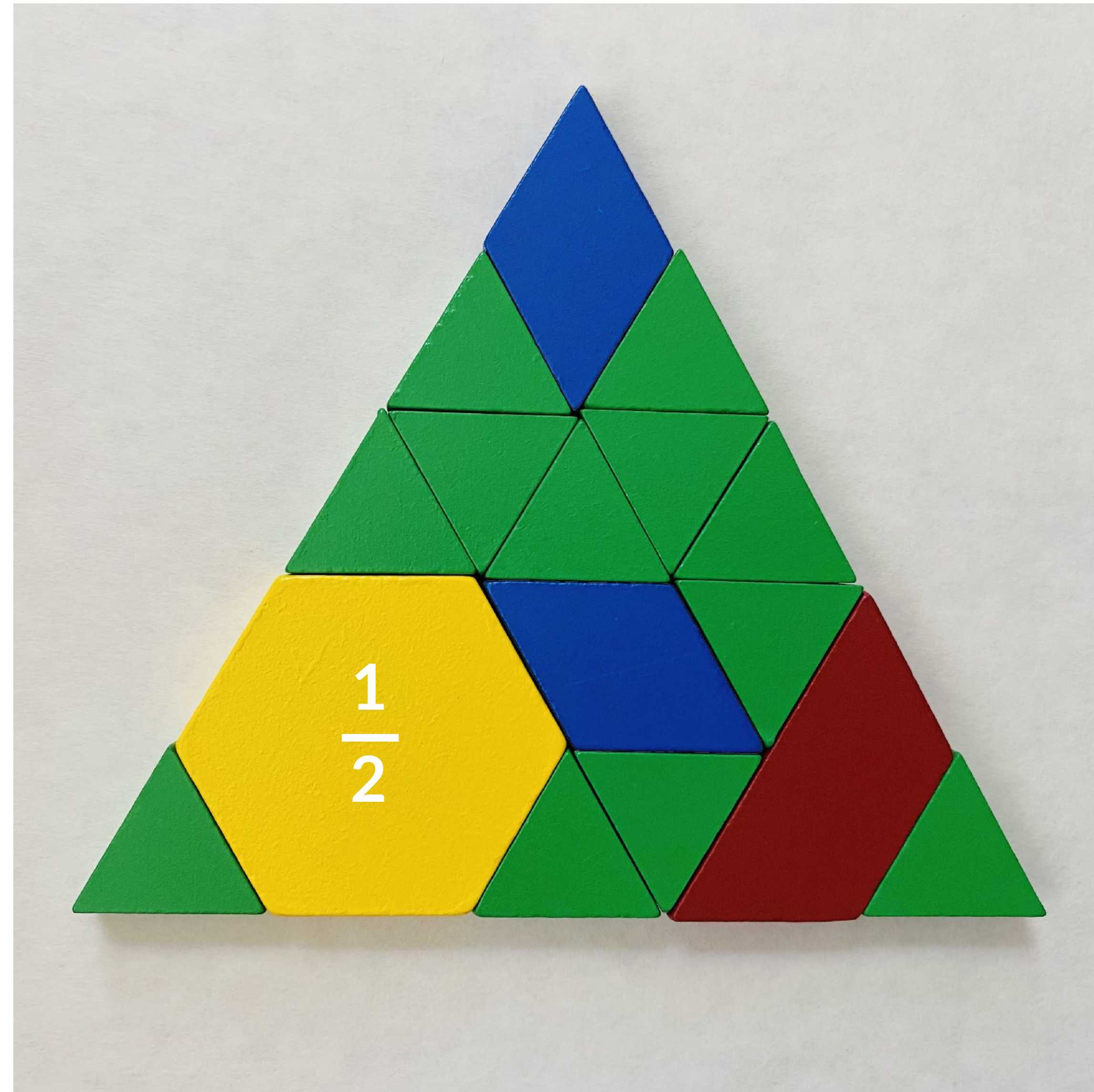
$$1 \div 2 = \underline{\quad}$$

$$2 \times \underline{\quad} = 1$$

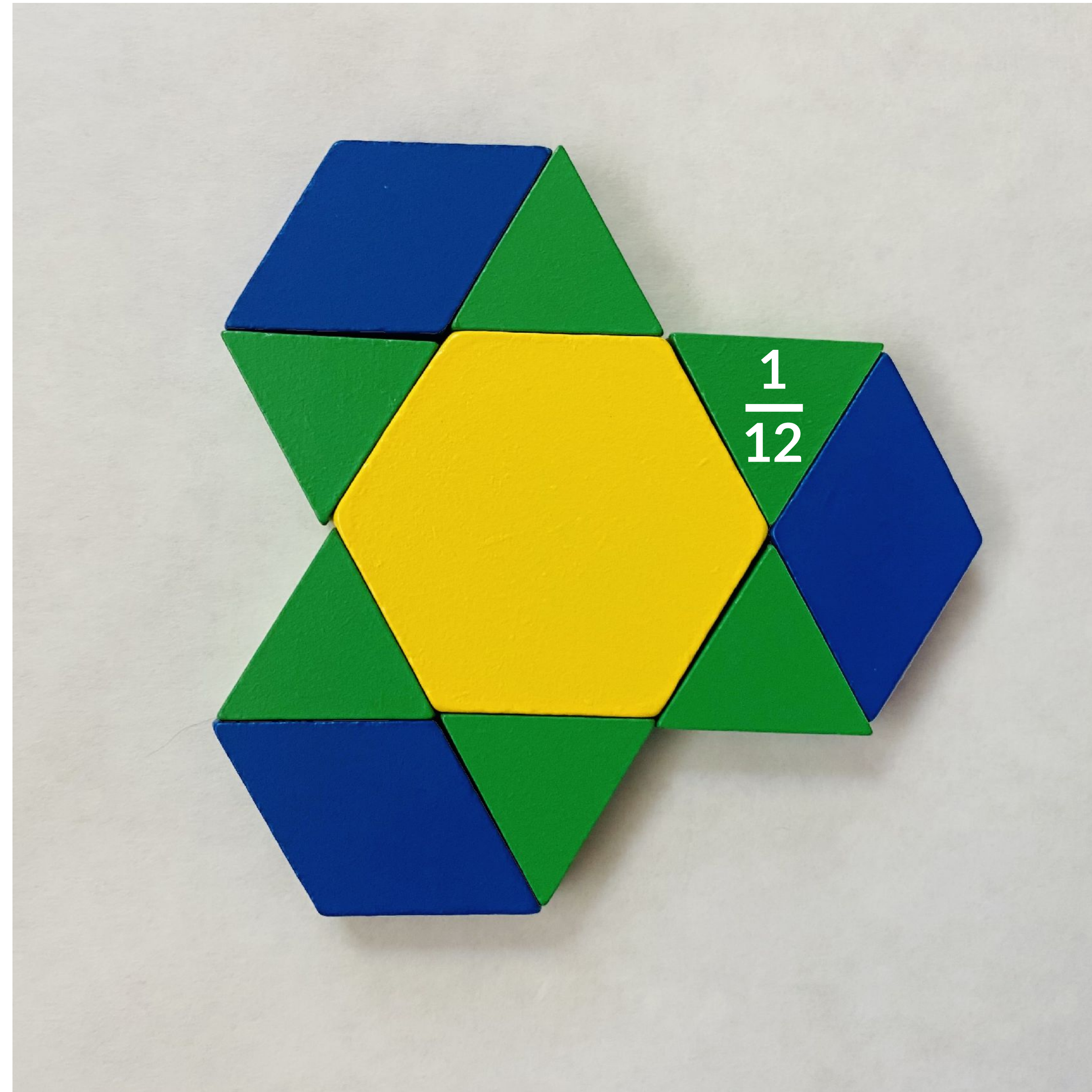
Fractions

Equivalence and Comparing

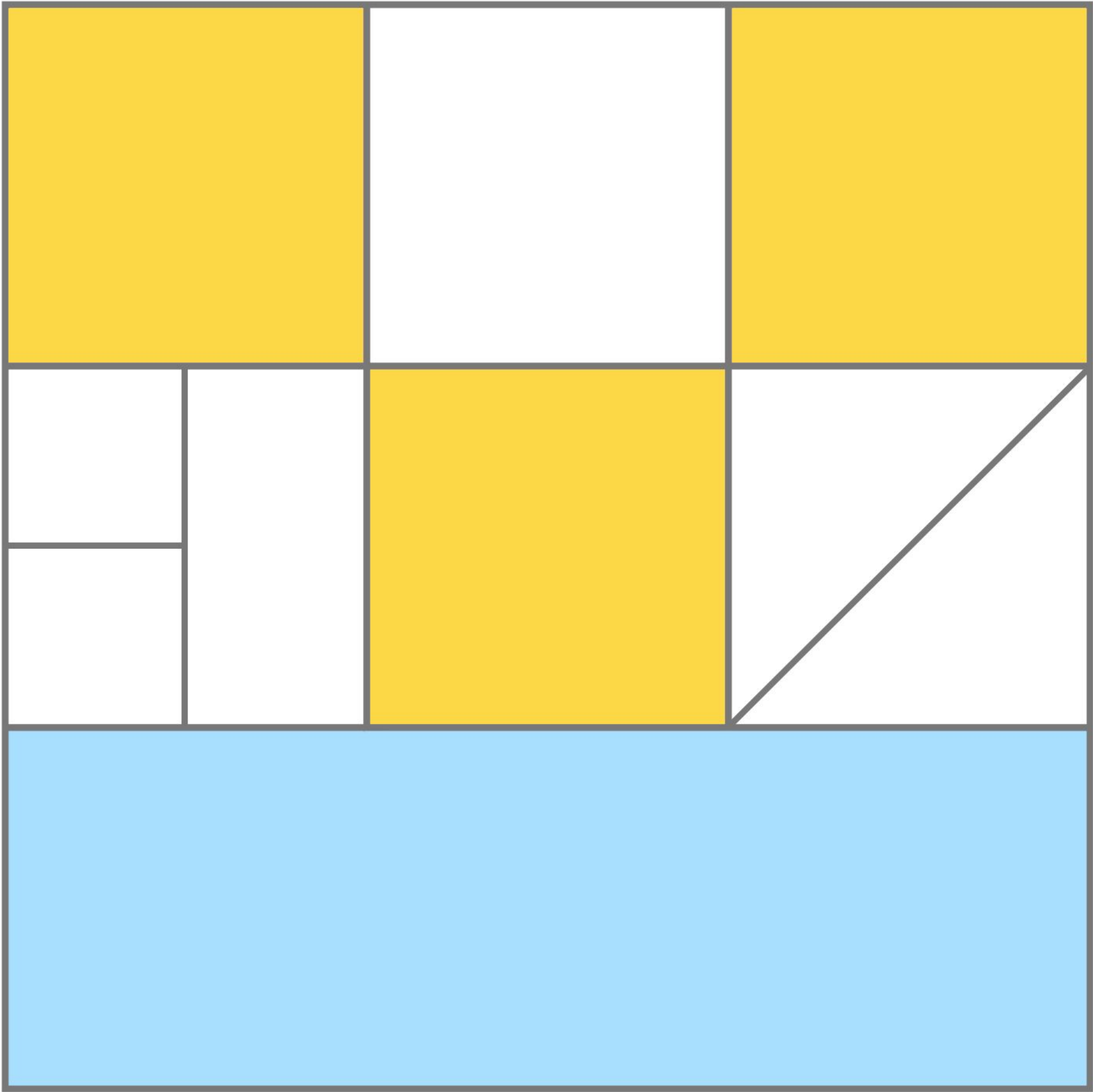
How Much?



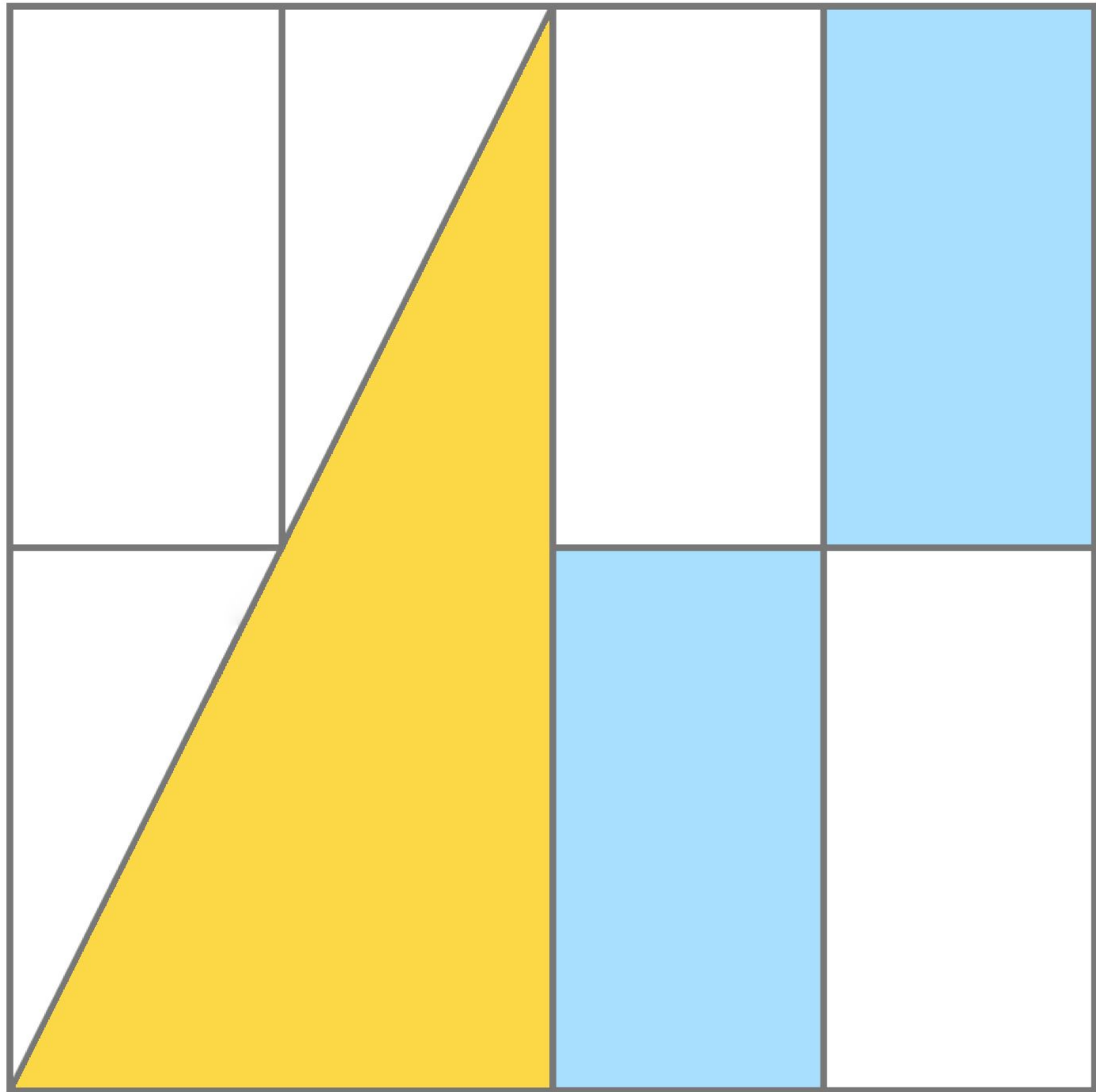
How Much?



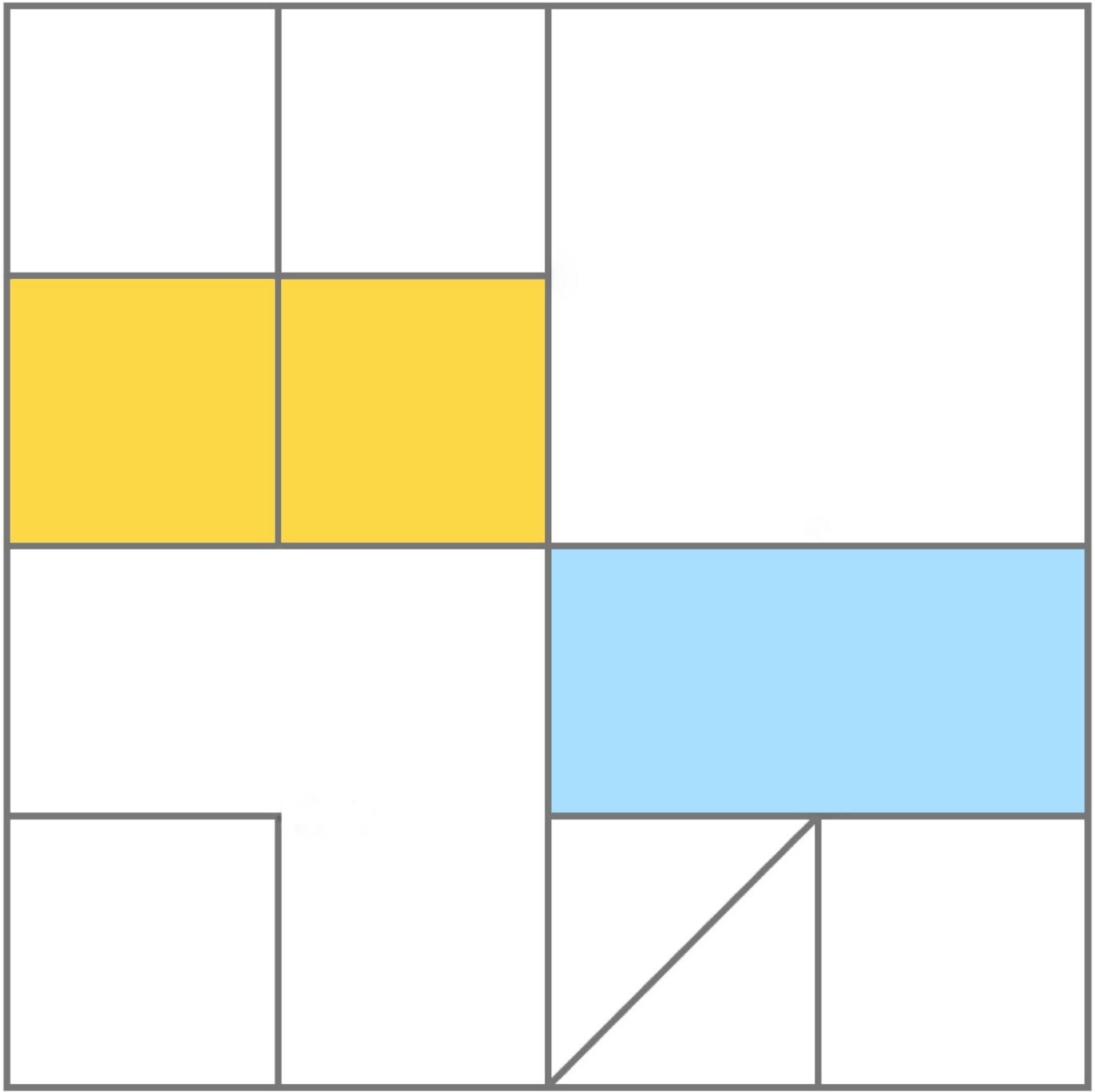
How Much?



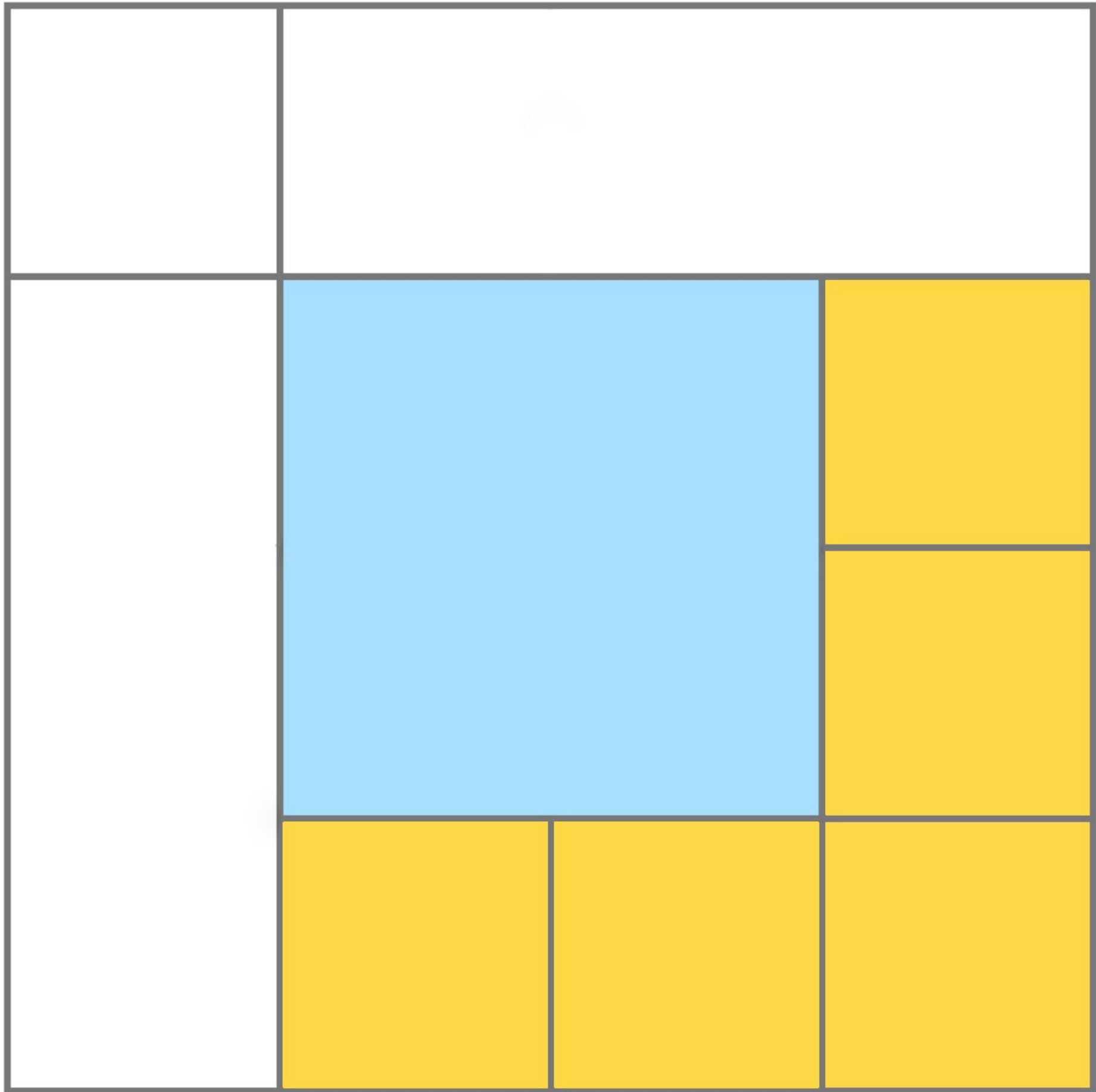
How Much?



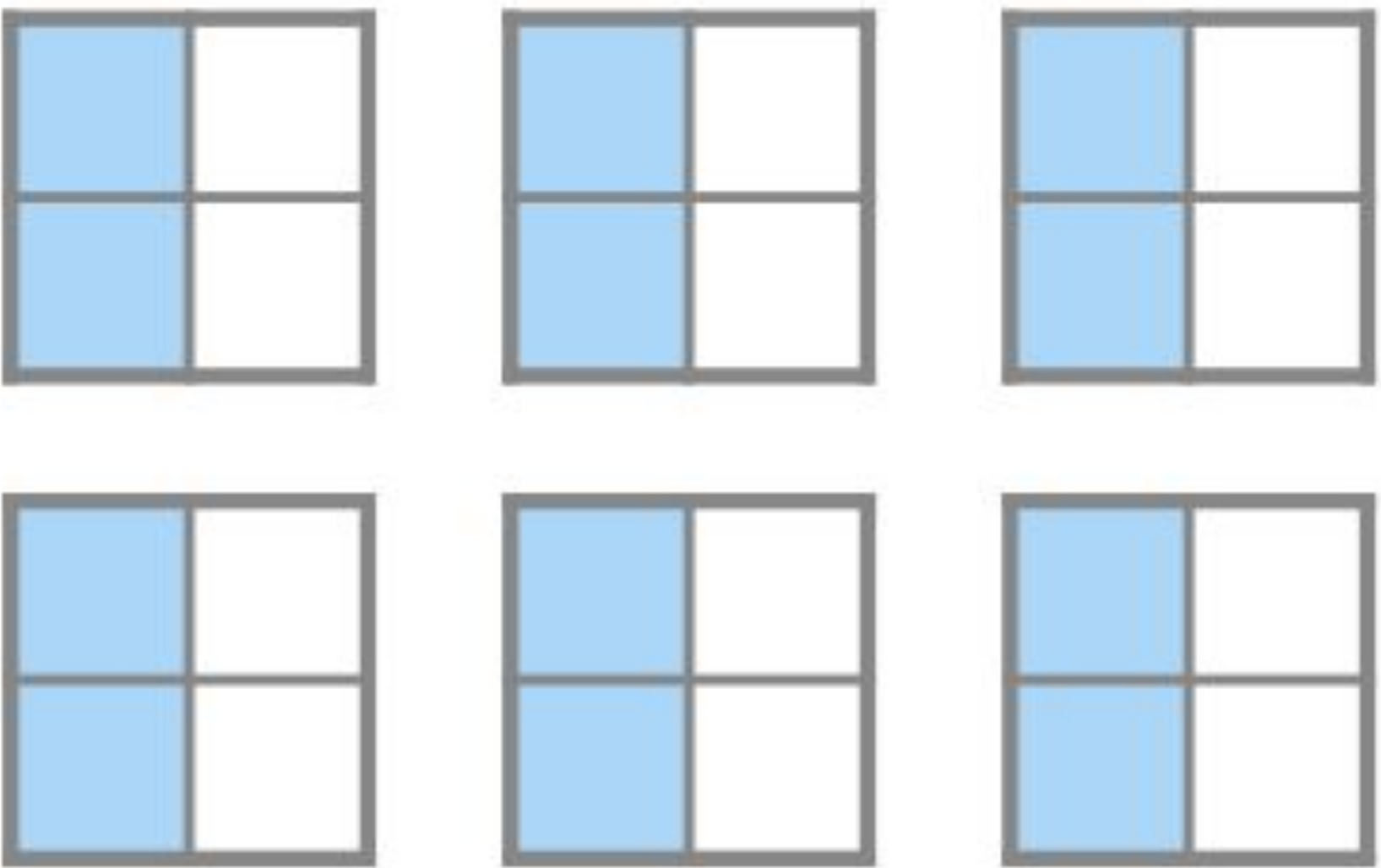
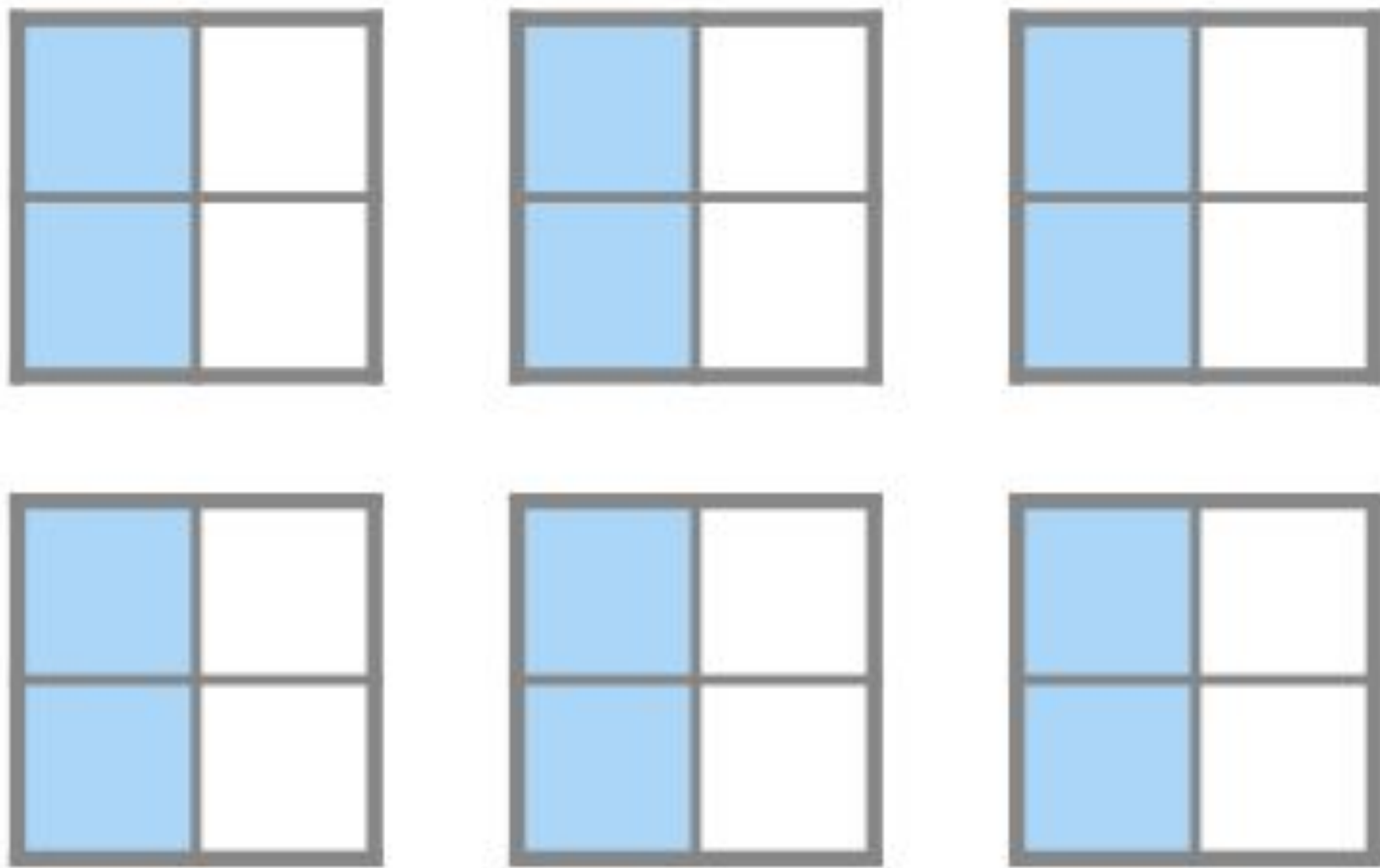
How Much?



How Much?



How Much?



Ways to Make

$$\frac{1}{2}$$

Ways to Make

$$\frac{4}{6}$$

Ways to Make

$$\begin{array}{r} 24 \\ \hline 12 \end{array}$$

Ways to Make

$$2\frac{2}{4}$$



Choral Counting by $\frac{1}{6}$ starting at $\frac{1}{6}$

$$\frac{1}{6}$$

$$\frac{2}{6}$$

$$\frac{3}{6}$$

$$\frac{4}{6}$$

$$\frac{5}{6}$$

$$\frac{6}{6}$$

$$\frac{7}{6}$$

$$\frac{8}{6}$$

$$\frac{9}{6}$$

$$\frac{10}{6}$$

$$\frac{11}{6}$$

$$\frac{12}{6}$$

$$\frac{13}{6}$$

$$\frac{14}{6}$$

$$\frac{15}{6}$$

$$\frac{16}{6}$$

$$\frac{17}{6}$$

$$\frac{18}{6}$$





Choral Counting by $\frac{2}{8}$ starting at $\frac{2}{8}$

$$\frac{2}{8}$$

$$\frac{4}{8}$$

$$\frac{6}{8}$$

$$\frac{8}{8}$$

$$\frac{10}{8}$$

$$\frac{12}{8}$$

$$\frac{14}{8}$$

$$\frac{16}{8}$$

$$\frac{18}{8}$$

$$\frac{20}{8}$$

$$\frac{22}{8}$$

$$\frac{24}{8}$$

$$\frac{26}{8}$$

$$\frac{28}{8}$$

$$\frac{30}{8}$$

$$\frac{32}{8}$$

$$\frac{34}{8}$$

$$\frac{36}{8}$$

$$\frac{38}{8}$$

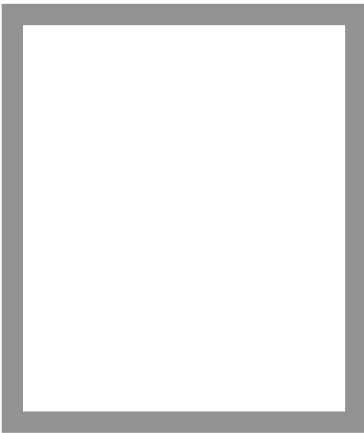
$$\frac{40}{8}$$

$$\frac{42}{8}$$

$$\frac{44}{8}$$

$$\frac{46}{8}$$

$$\frac{48}{8}$$





Choral Counting by $\frac{3}{4}$ starting at $\frac{3}{4}$

$$\frac{3}{4}$$

$$\frac{6}{4}$$

$$\frac{9}{4}$$

$$\frac{12}{4}$$

$$\frac{15}{4}$$

$$\frac{18}{4}$$

$$\frac{21}{4}$$

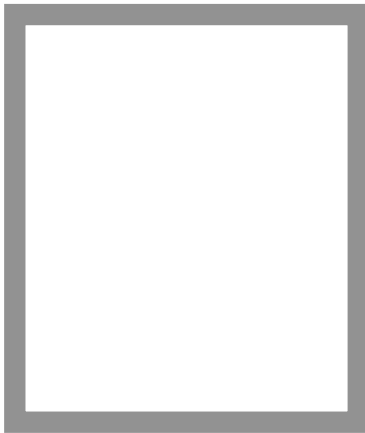
$$\frac{24}{4}$$

$$\frac{27}{4}$$

$$\frac{30}{4}$$

$$\frac{33}{4}$$

$$\frac{36}{4}$$





Focus: Equivalence

Same and Different

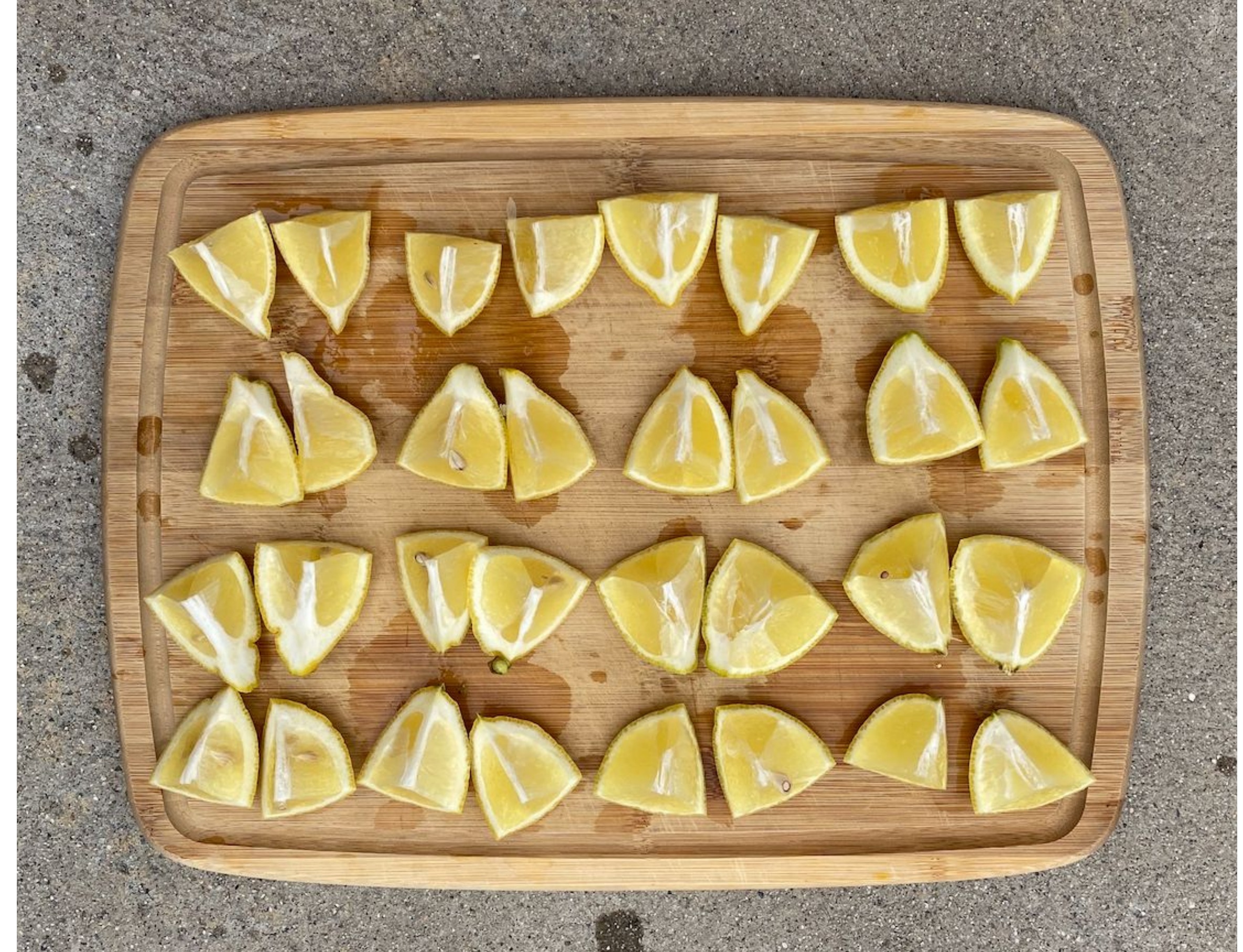
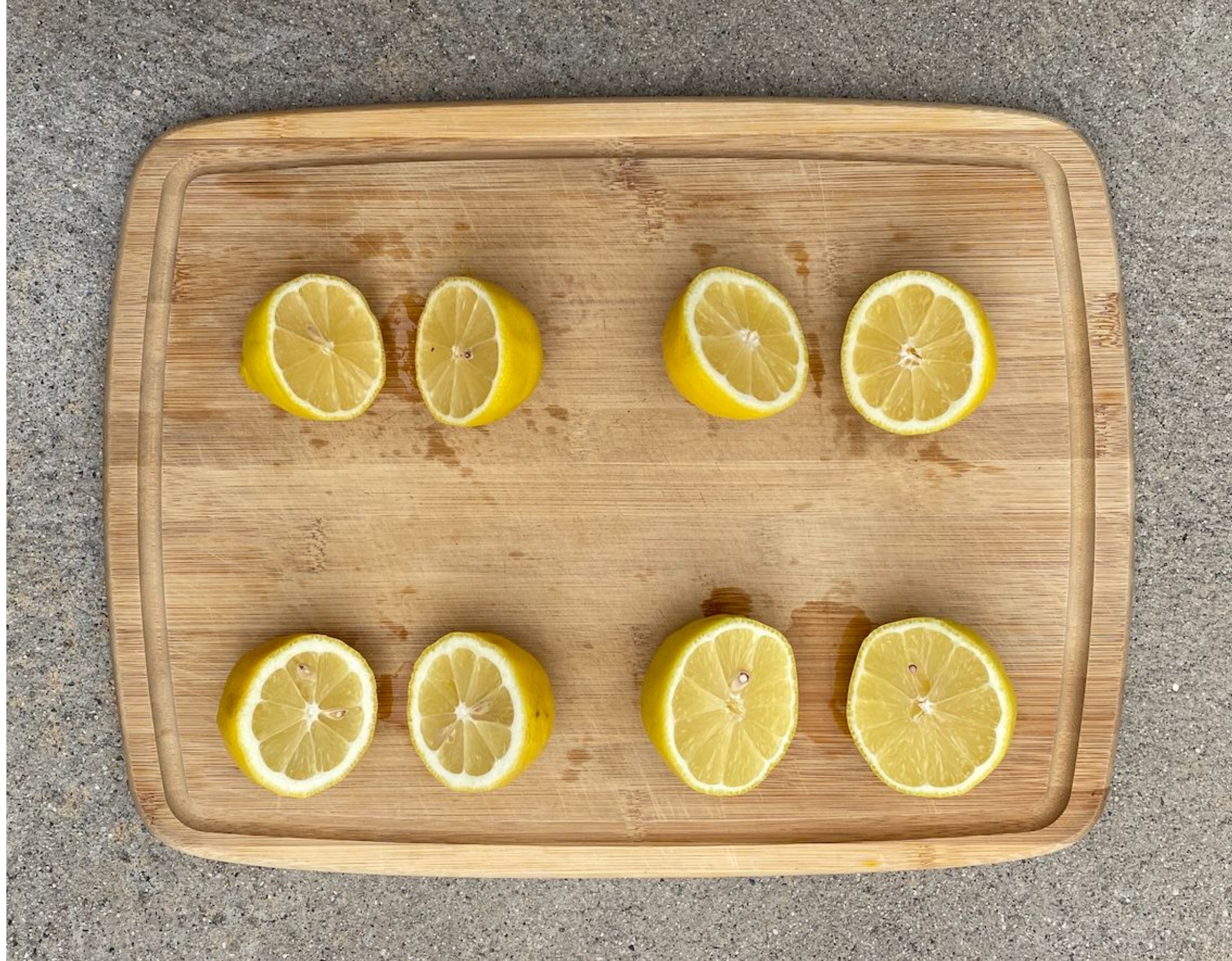


Same and Different

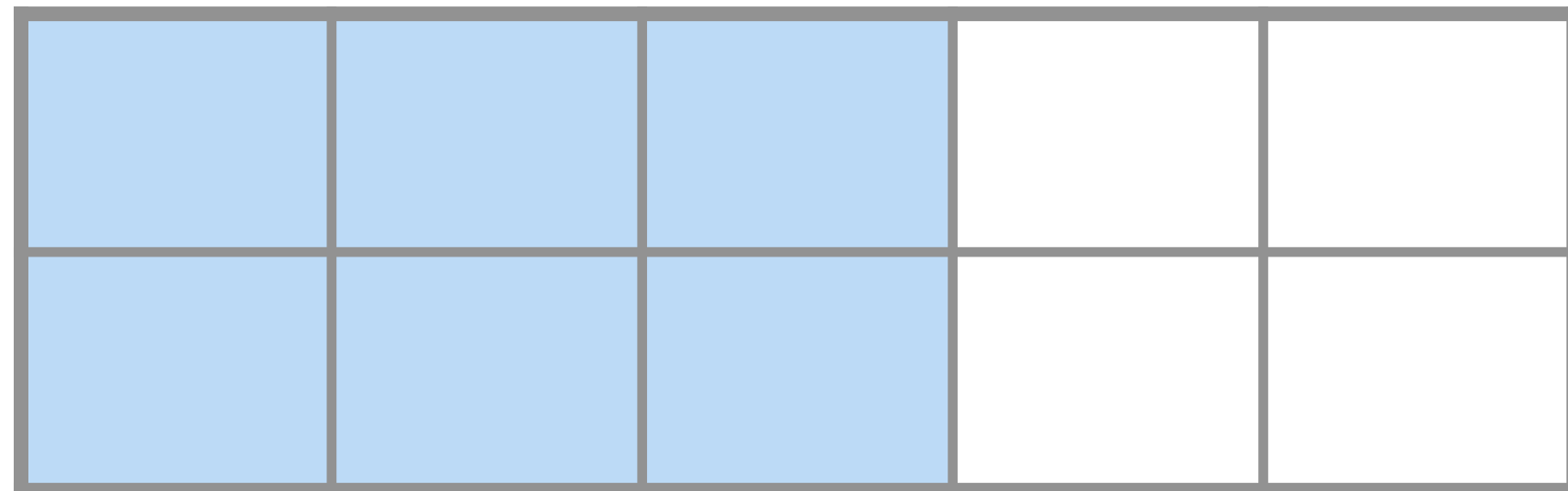


3 cookies shared equally
between 4 people.

Same and Different

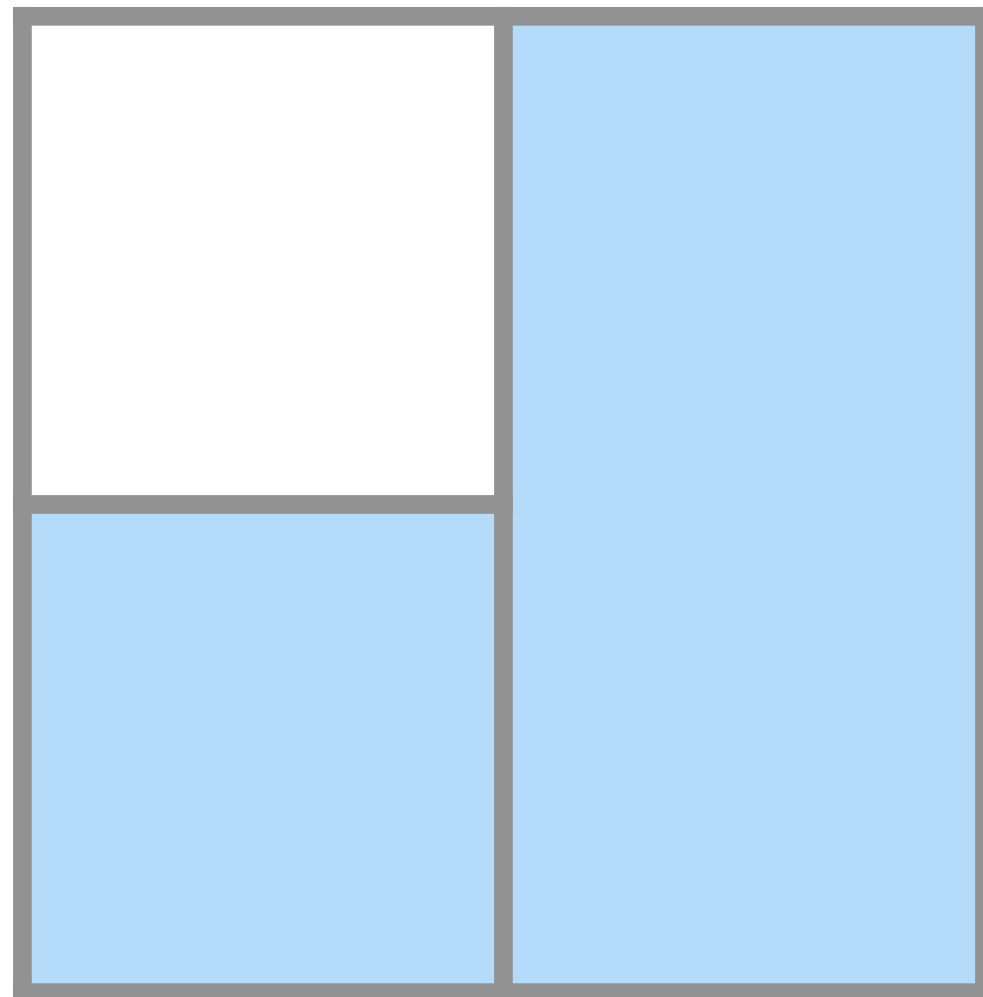


Same and Different



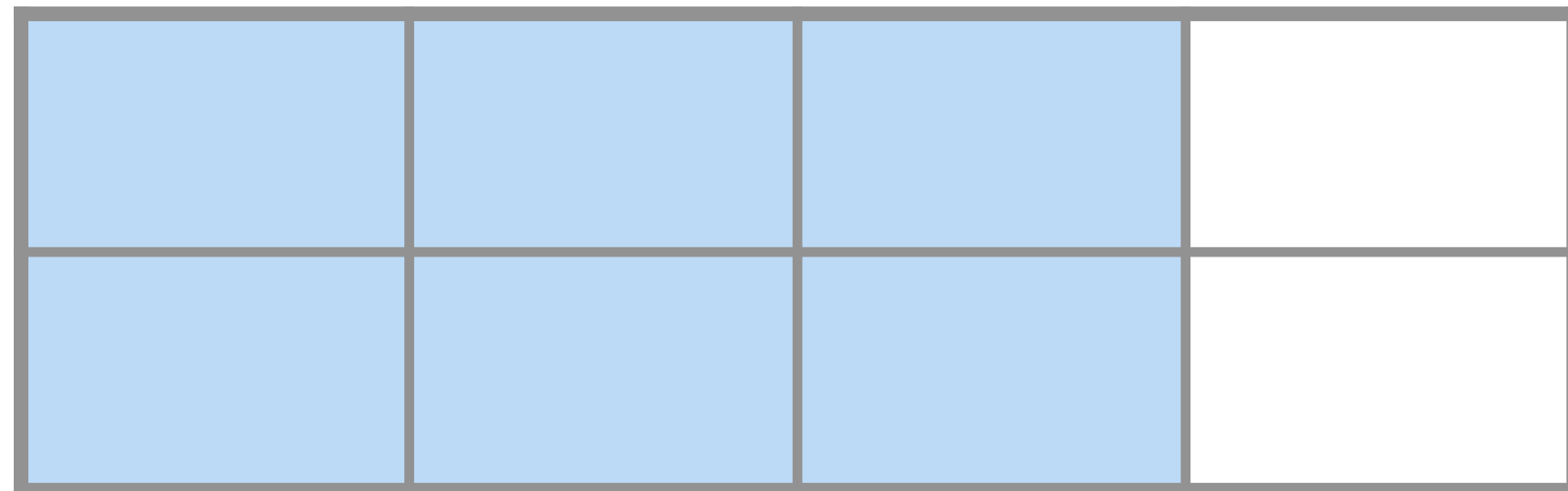
$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5}$$

Same and Different



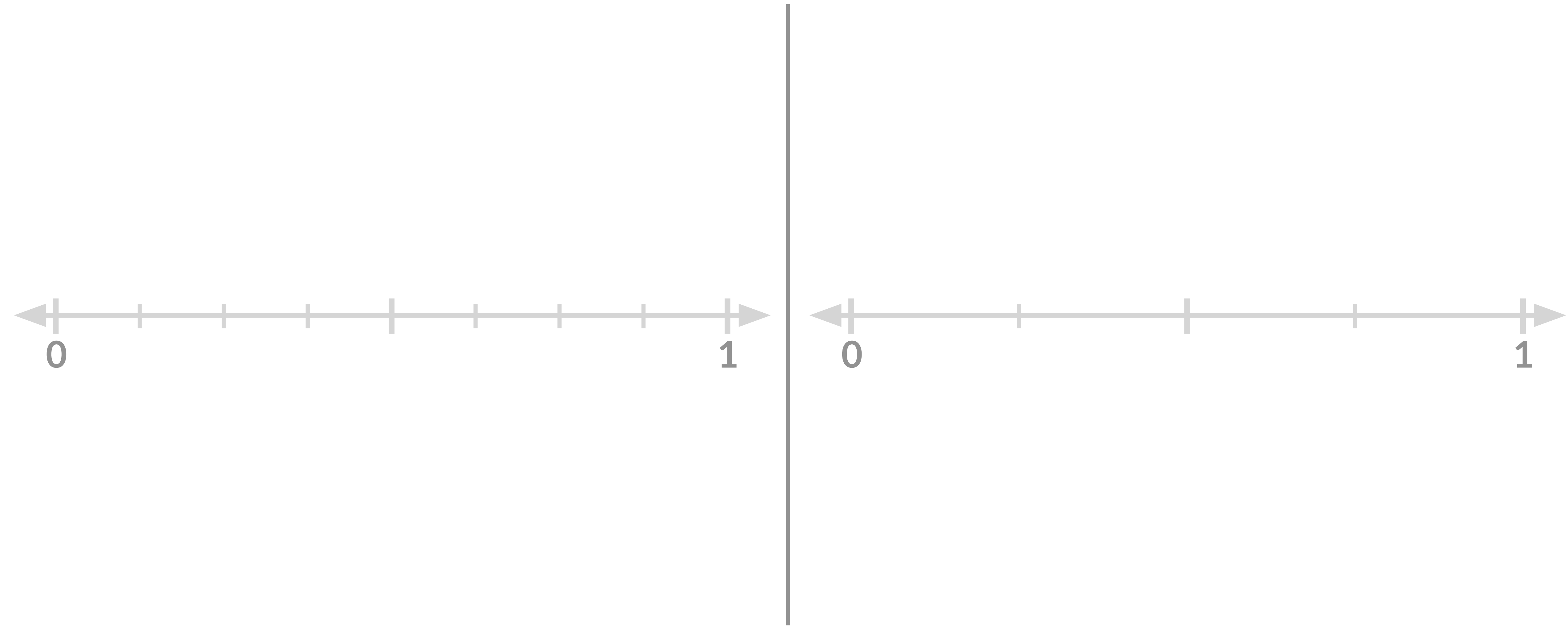
$$\frac{9}{12}$$

Same and Different

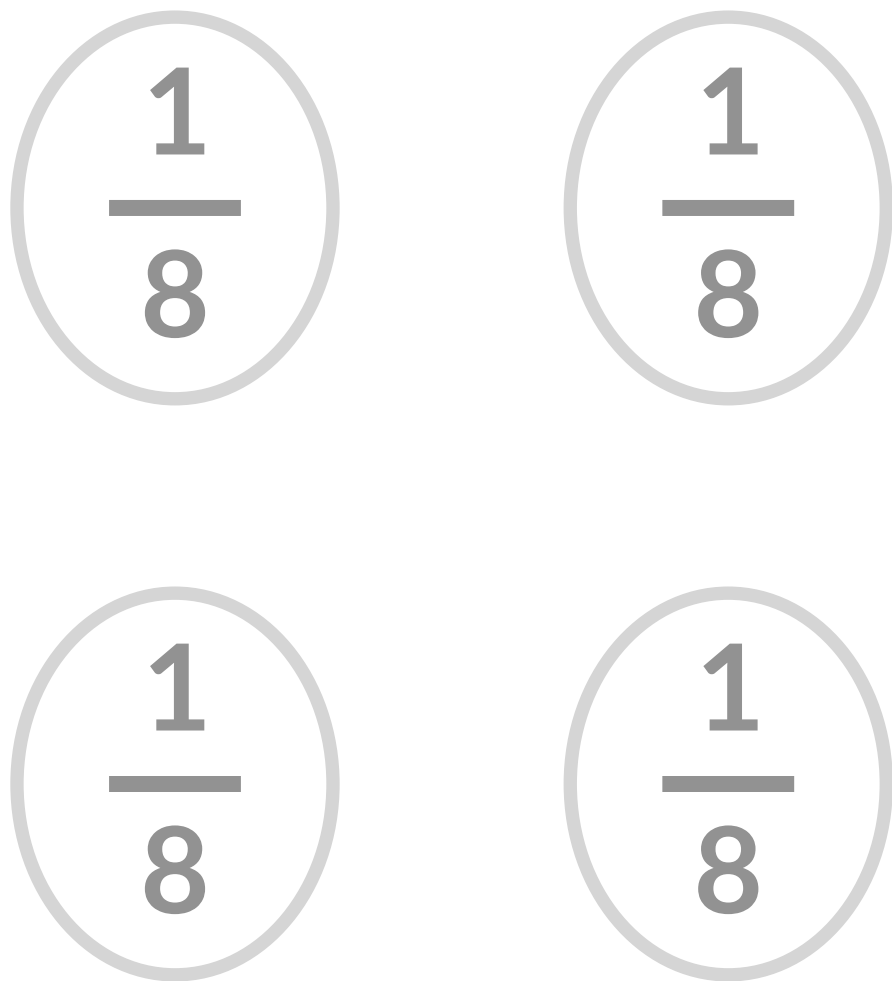


$$\frac{3}{4}$$

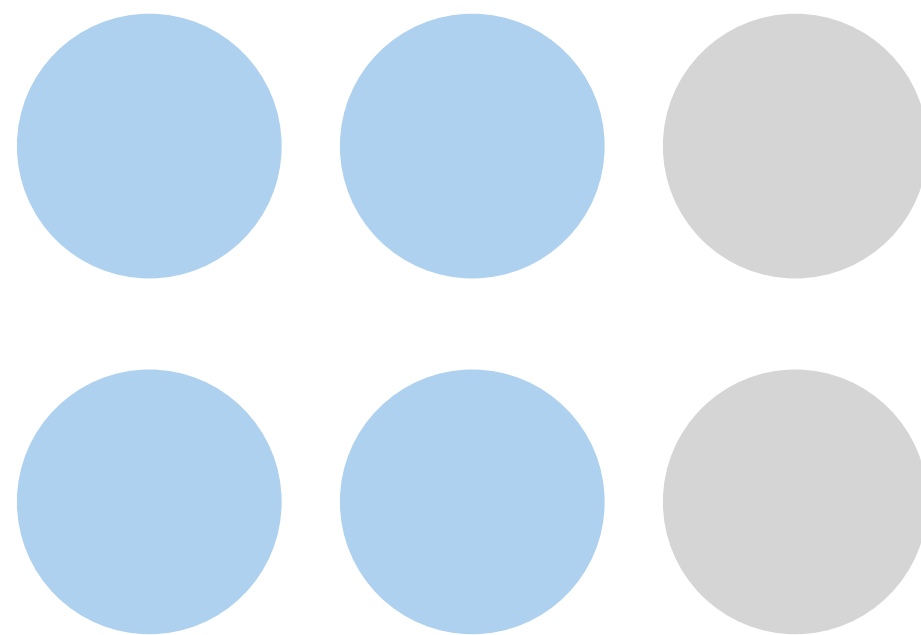
Same and Different



Same and Different

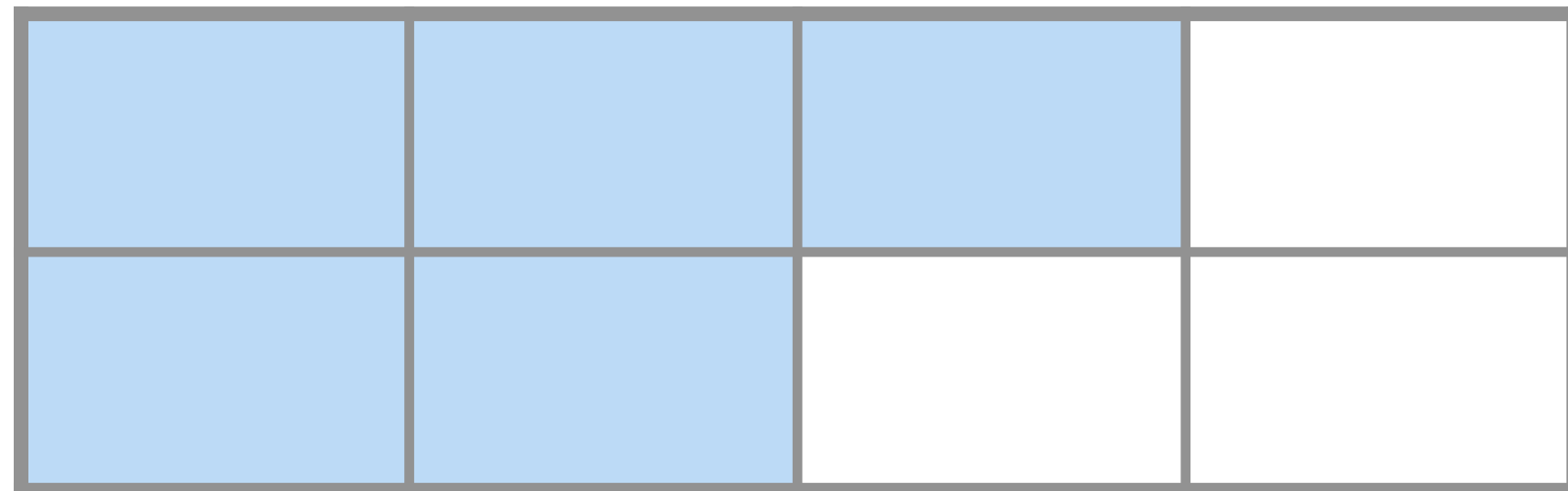


Same and Different



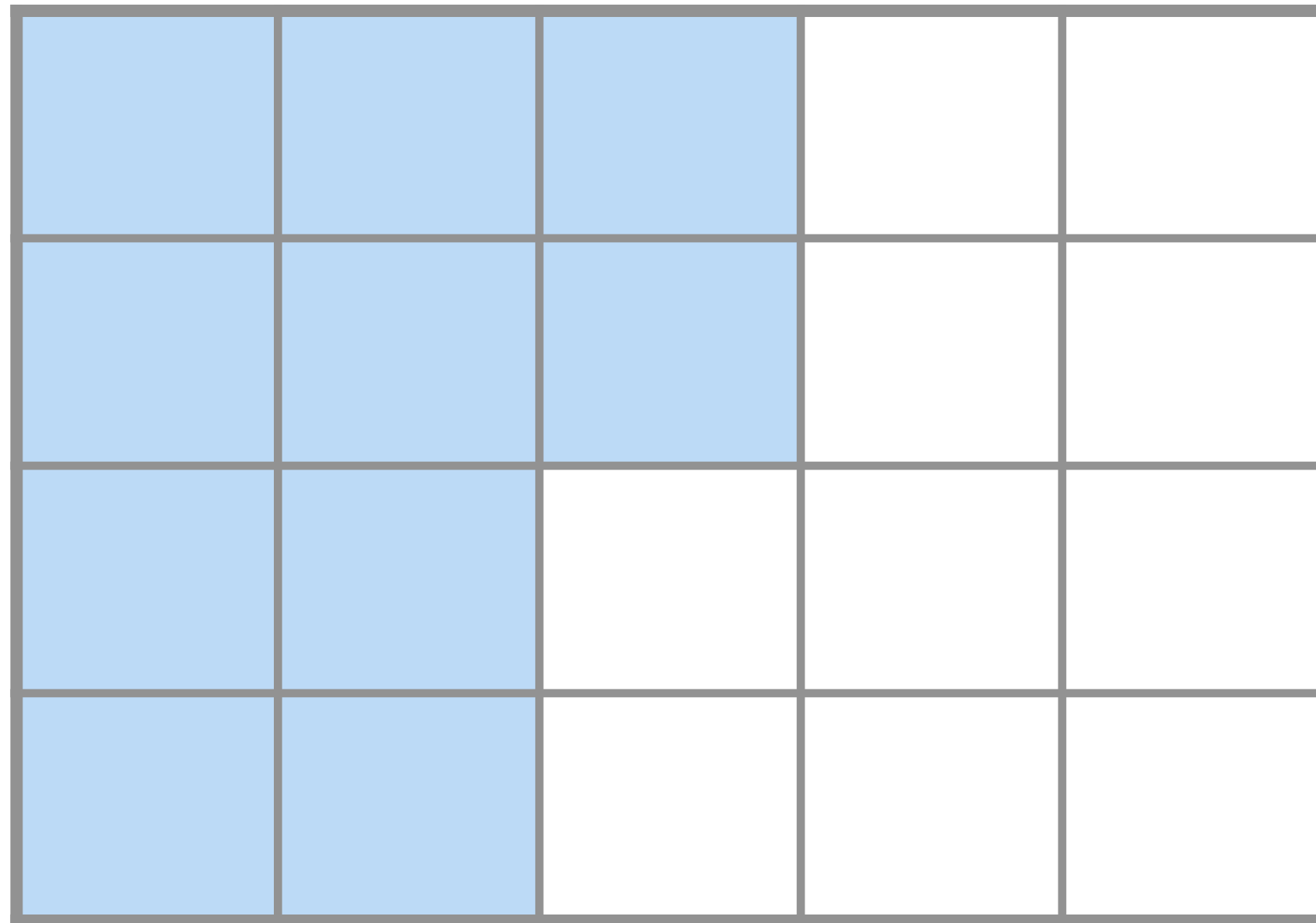
$$\frac{2}{3}$$

Same and Different



$$\frac{1}{2} + \frac{1}{8}$$

Same and Different



$$\frac{1}{2} = \frac{10}{20} = \frac{2\frac{1}{2}}{5}$$

True or False?

$$\frac{1}{2} + \frac{1}{2} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{1}{2} + \frac{1}{4}$$

$$1 + \frac{1}{4} + \underline{\hspace{1cm}} = \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

True or False?

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{1}{8} + \frac{1}{8}$$

$$\frac{1}{3} + \frac{1}{3} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$$

$$\frac{2}{5} = \frac{\quad}{10}$$

True or False?

$$\frac{1}{4} = 2 \times \frac{1}{8}$$

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

$$\frac{1}{8} = 2 \times \underline{\hspace{1cm}}$$

True or False?

$$1 + \frac{1}{2} + \frac{1}{6} = 1\frac{2}{8}$$

$$2 + \frac{1}{2} + \frac{1}{4} = 2\frac{3}{4}$$

$$\frac{1}{2} + \underline{\hspace{2cm}} = \frac{5}{8}$$



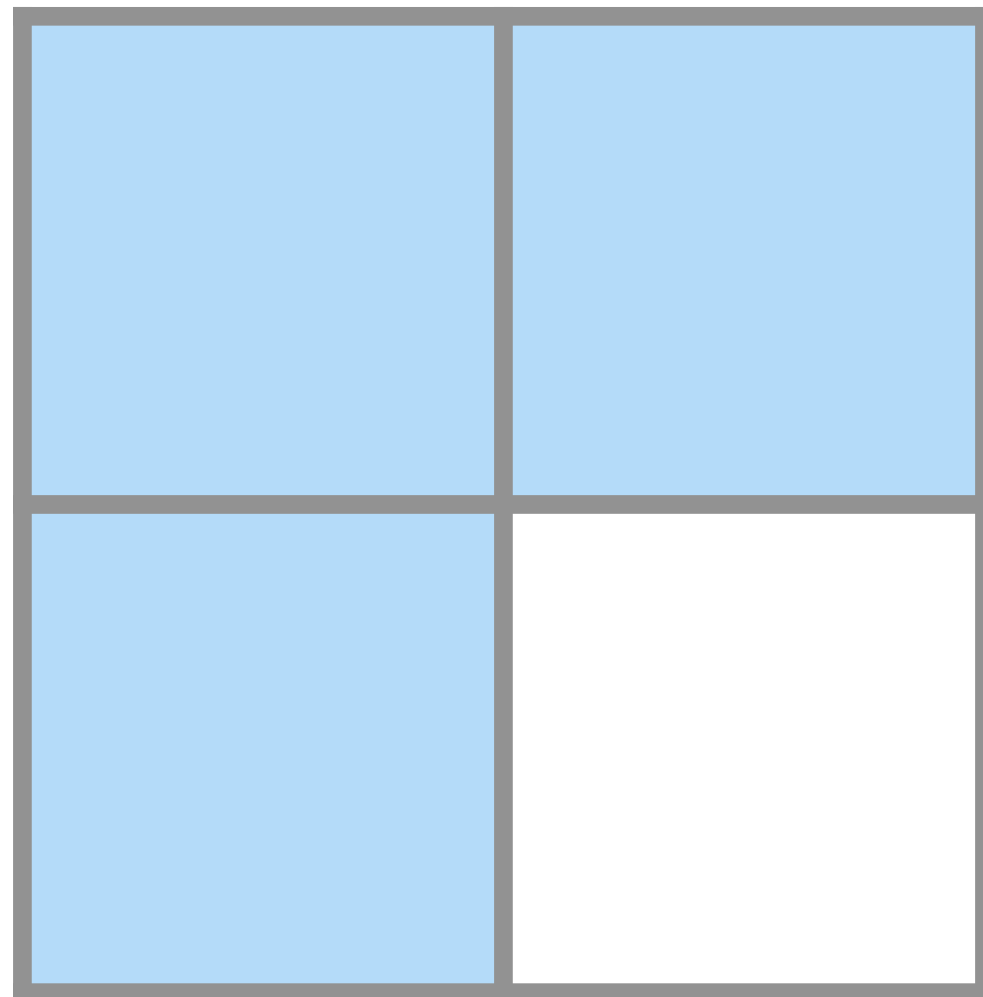
Focus: Comparing

Same and Different



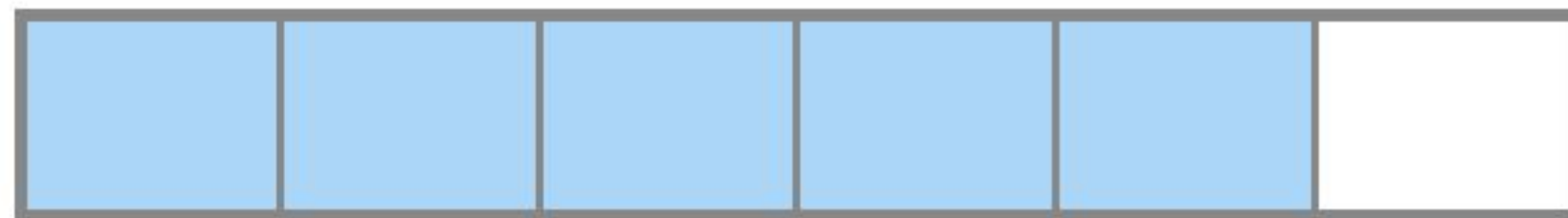
$$\frac{3}{4}$$

Same and Different



$$\frac{4}{3}$$

Same and Different



$$\frac{3}{10} < \frac{26}{50}$$

Same and Different

$$\frac{4}{10} < \frac{4}{6} < \frac{4}{3} \quad \left| \quad \frac{1}{8} \quad \frac{6}{8} \quad \frac{9}{8} \right.$$

Same and Different

$$\frac{2}{8} < \frac{5}{8}$$

$$\frac{3}{7} < \frac{3}{6}$$

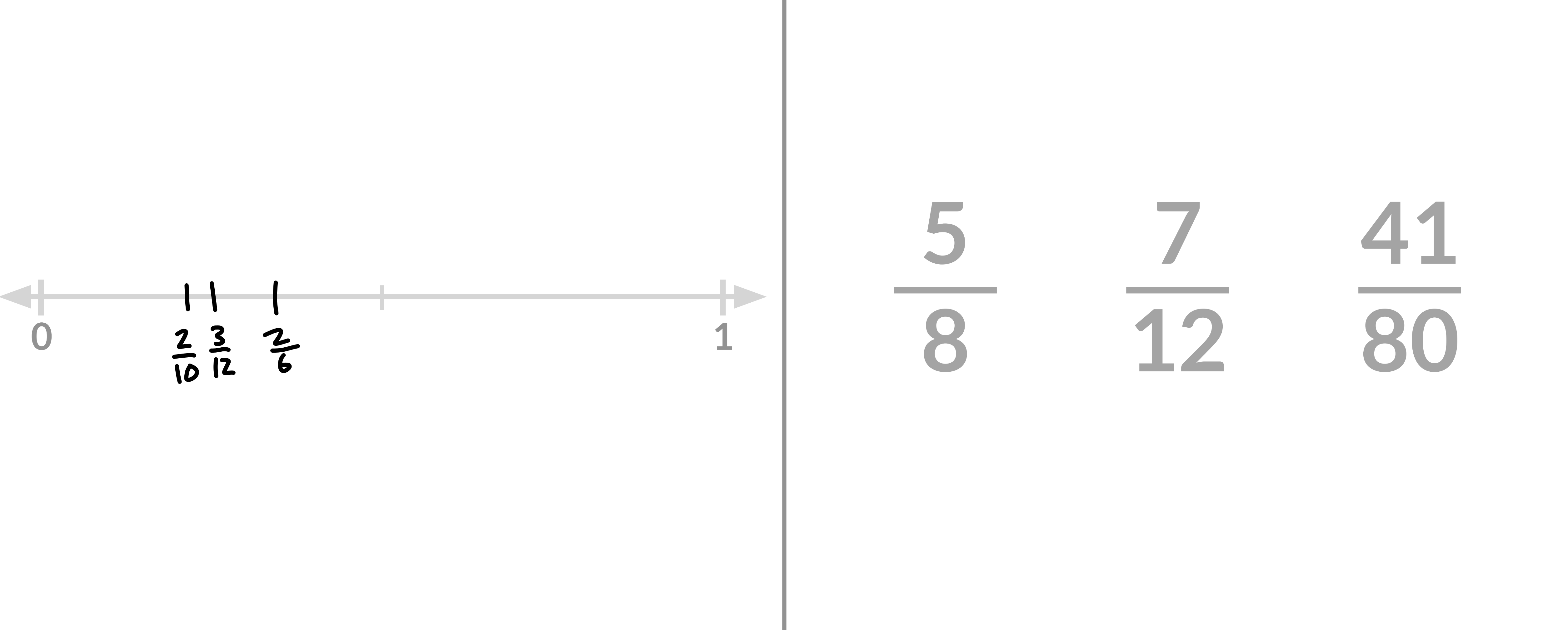
Same and Different

$$\frac{4}{7}$$

$$\frac{4}{9}$$

**Same number of cookies
but more people are
sharing them.**

Same and Different



True or False?

$$\frac{3}{6} > \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$$

$$\frac{5}{9} < \frac{5}{7}$$

$$\frac{5}{5} > \frac{5}{6}$$

True or False?

$$\frac{1}{6} < \frac{1}{7}$$

$$\frac{6}{8} > \frac{3}{4}$$

$$\frac{\quad}{10} > \frac{2}{5}$$

True or False?

$$\frac{4}{9} > \frac{4}{8}$$

$$\frac{17}{18} < \frac{18}{17}$$

$$6 < \overline{6}$$

True or False?

$$\frac{4}{4} + \frac{2}{2} > \frac{7}{8} + \frac{5}{6}$$

$$\frac{9}{10} < \frac{90}{100} + \frac{9}{100}$$

$$2 + \frac{1}{4} < 1 + \frac{1}{4} + 1$$

Fractions

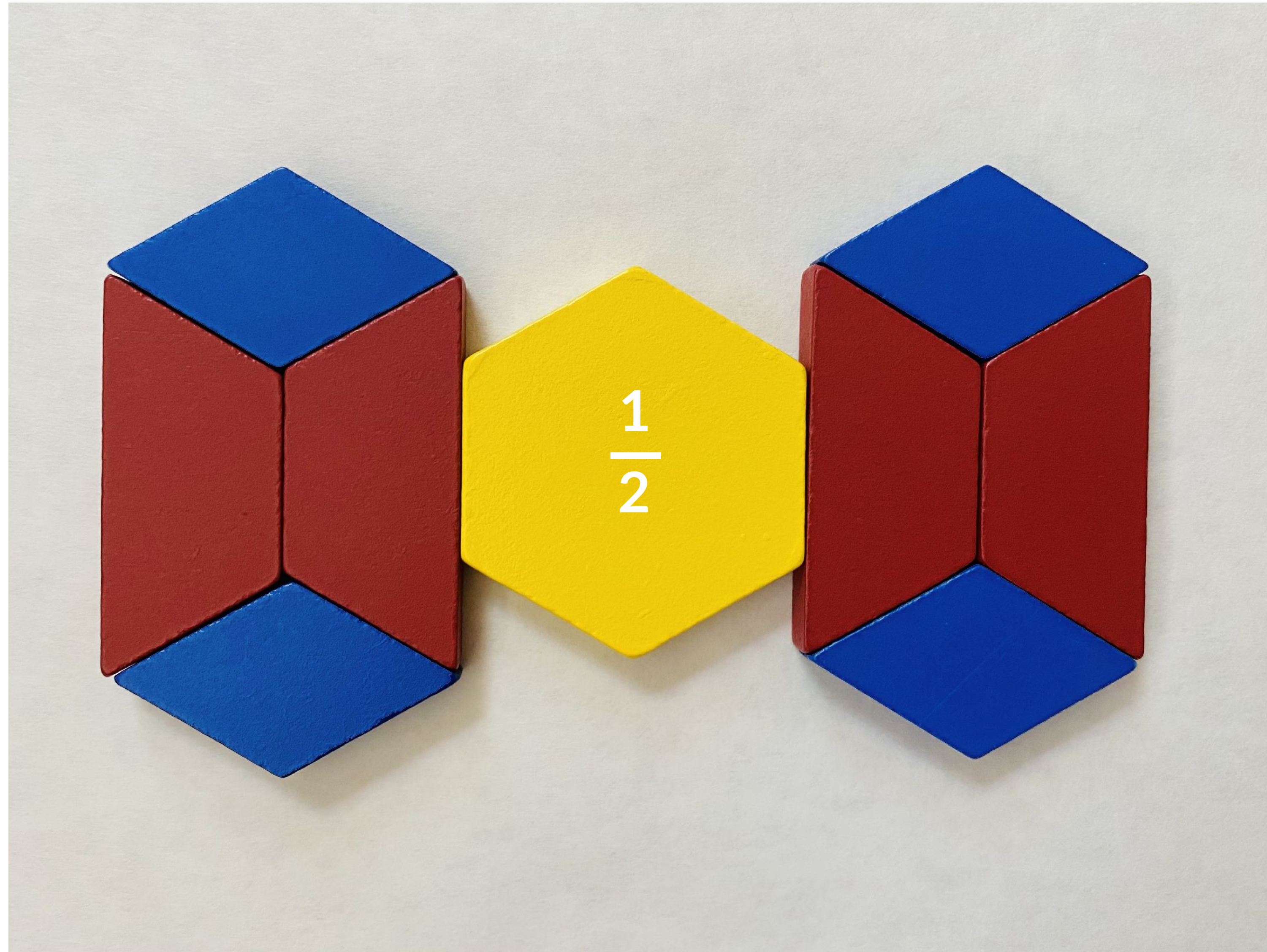
Operations

How Much?

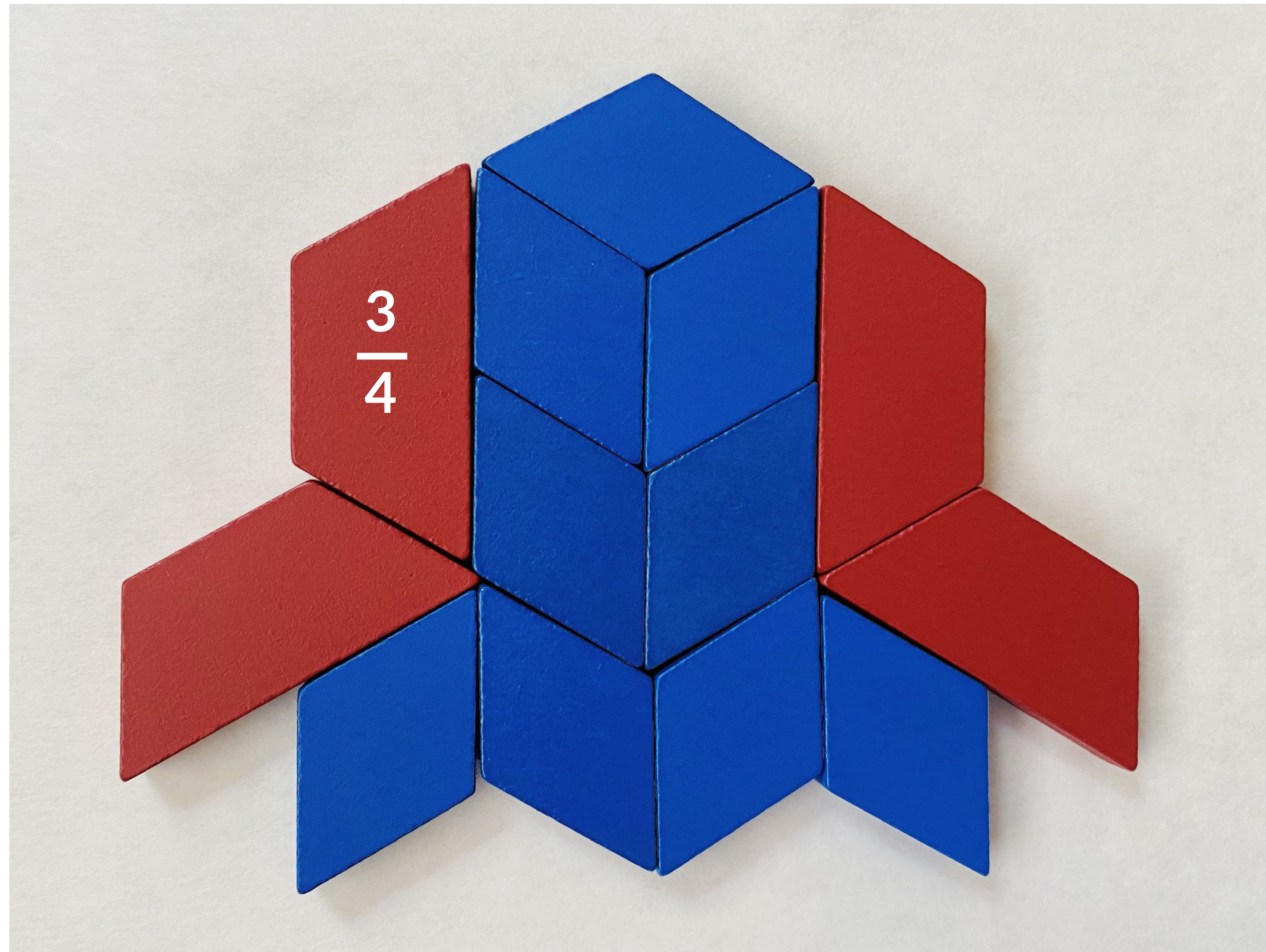
BERKELEY EVERETT

Whole:
1 kumquat

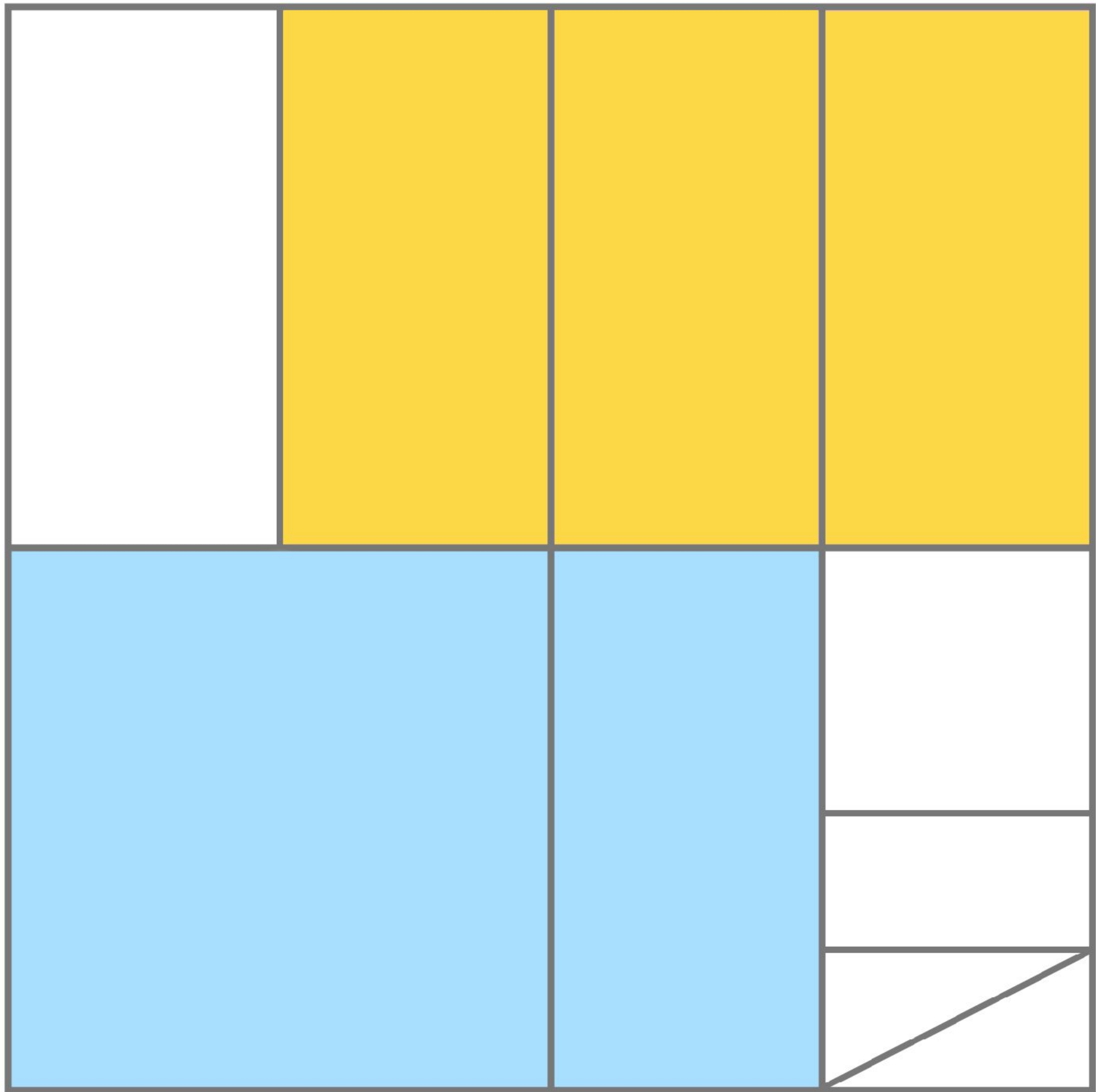
How Much?



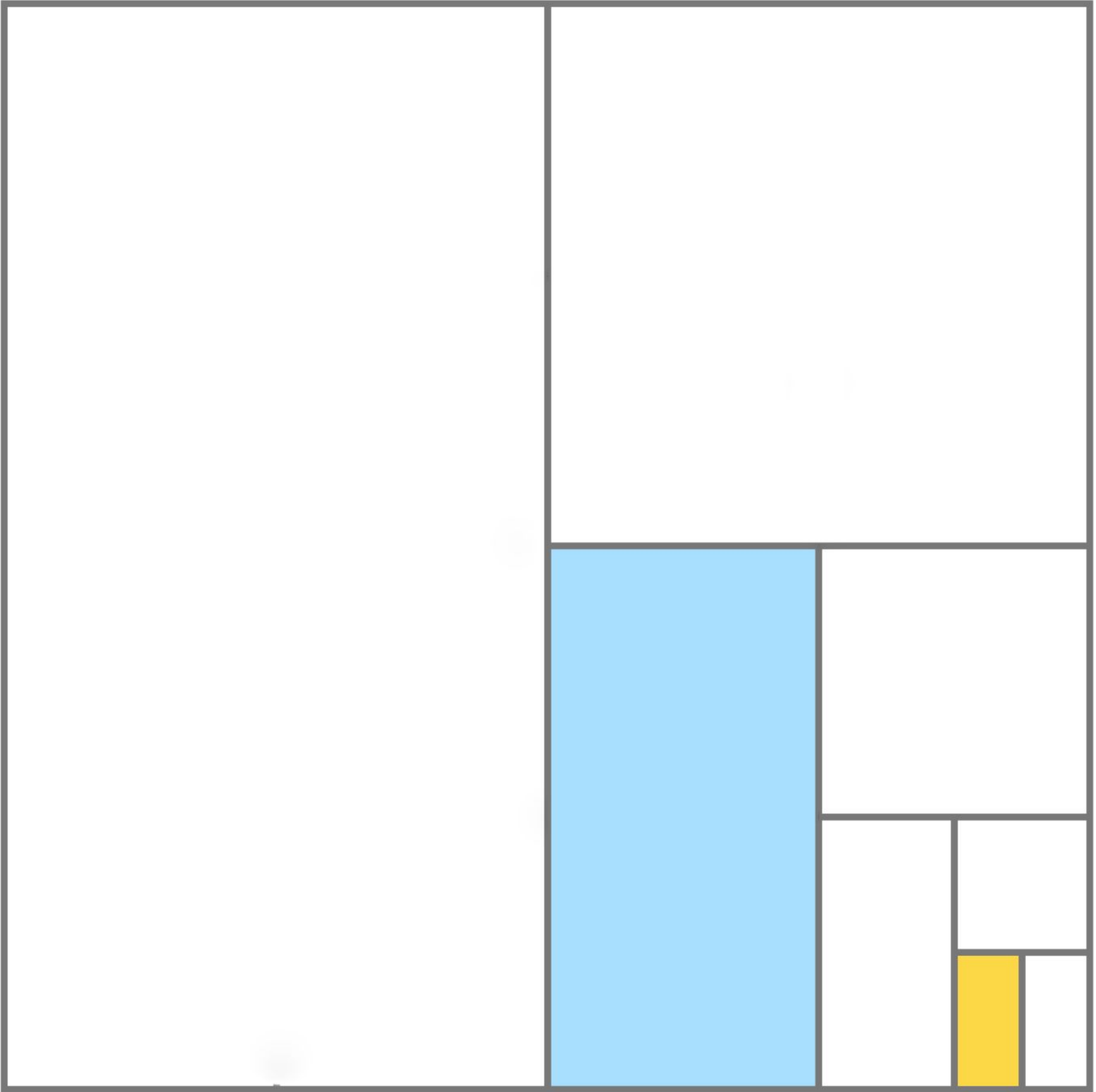
How Much?



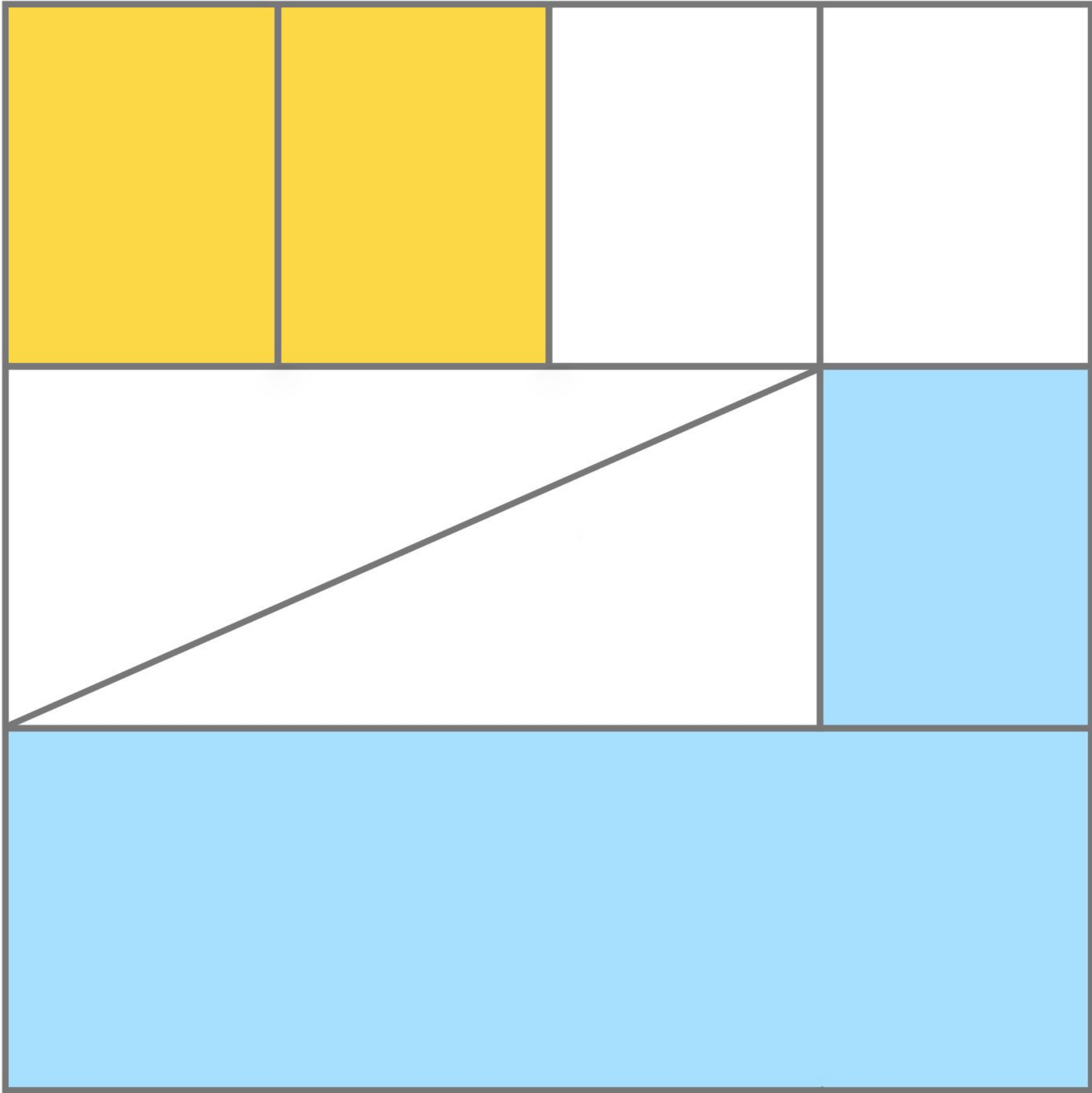
How Much?



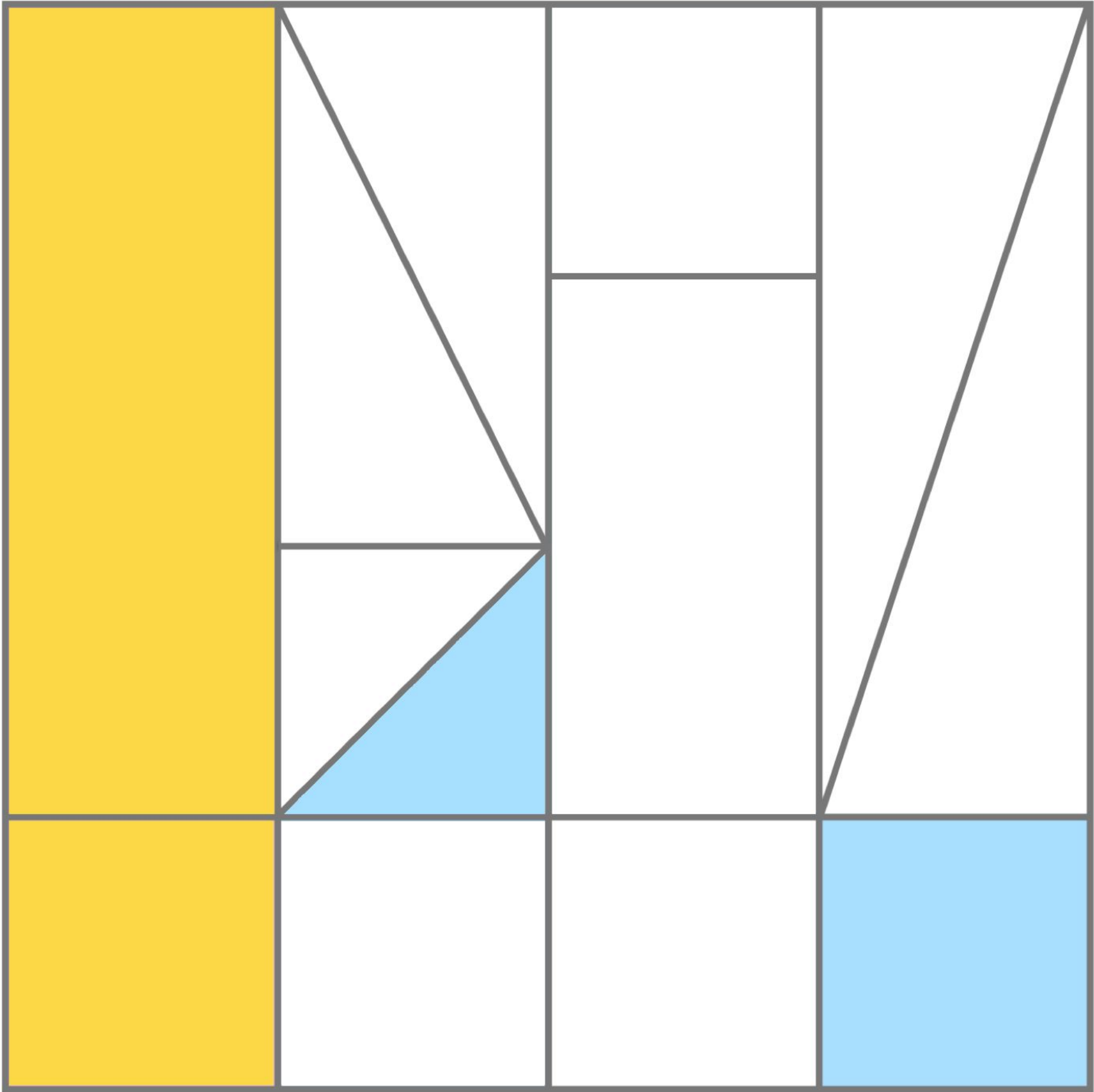
How Much?



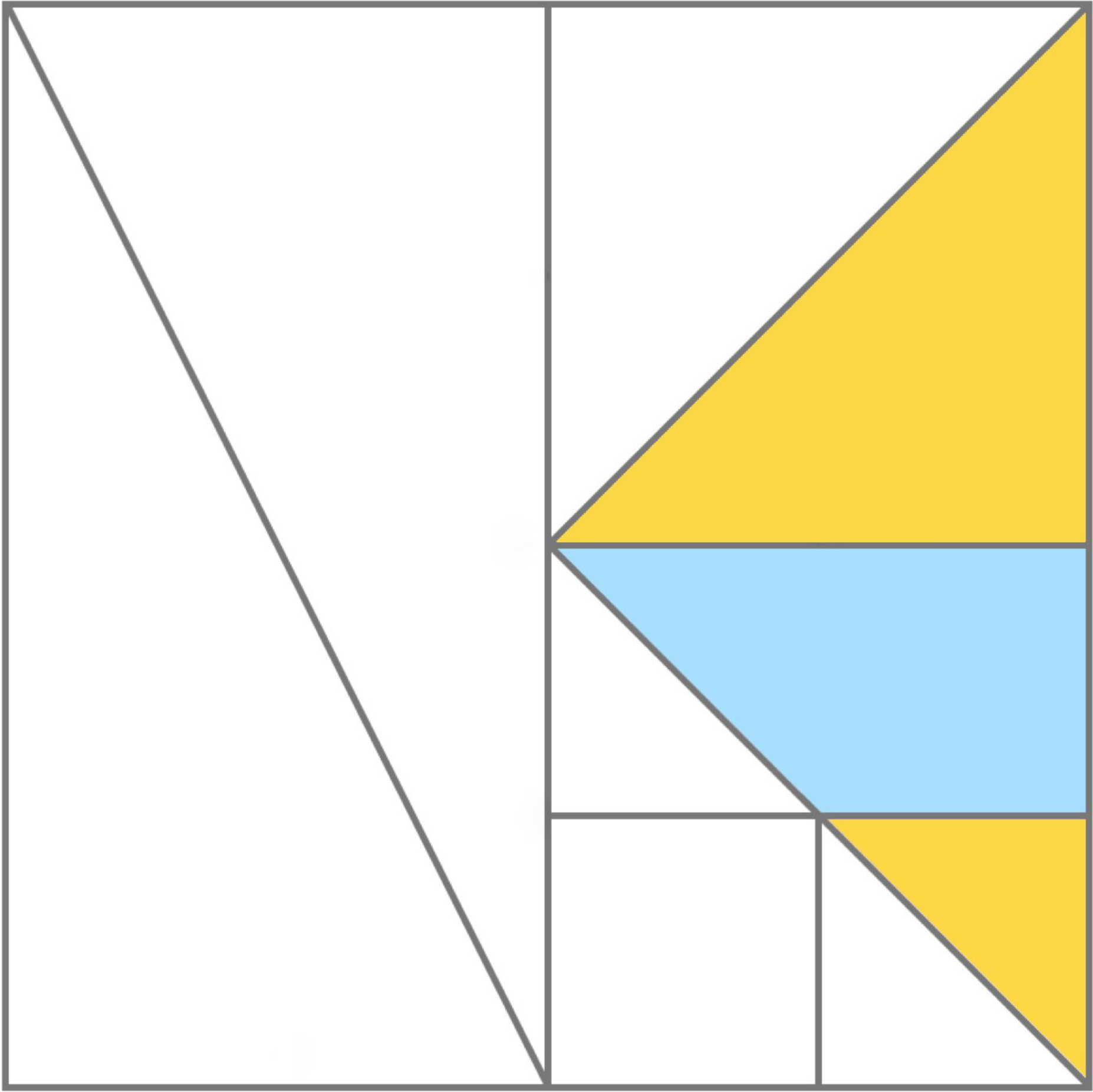
How Much?



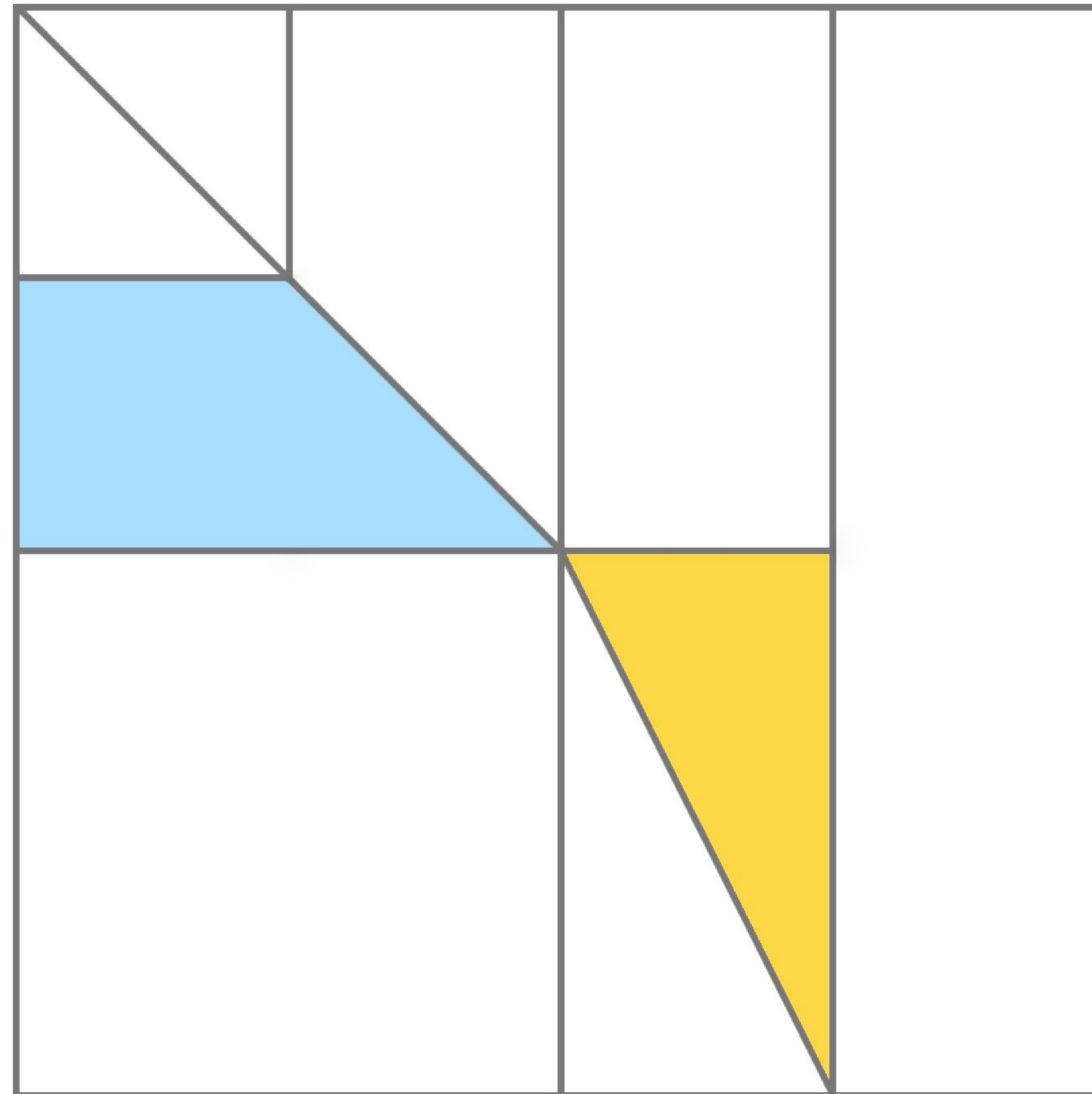
How Much?



How Much?



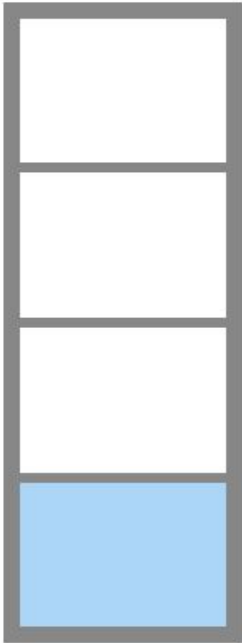
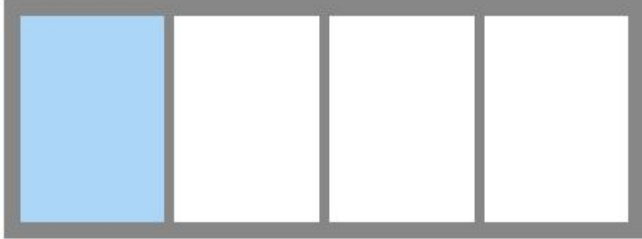
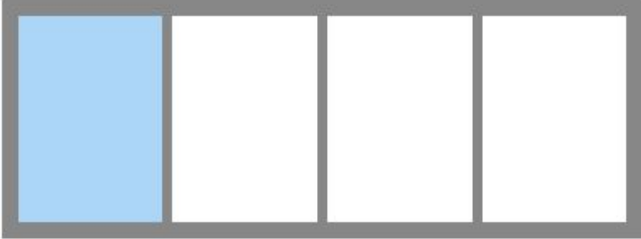
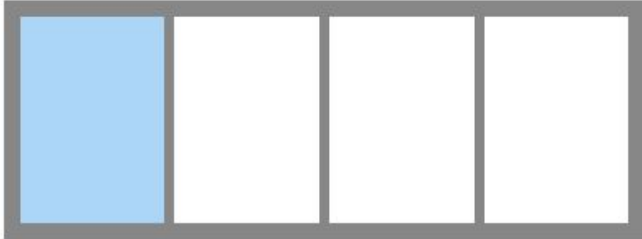
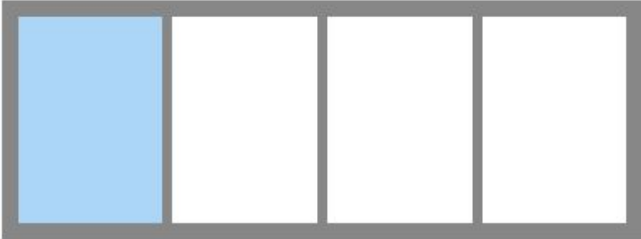
How Much?



1 whole:



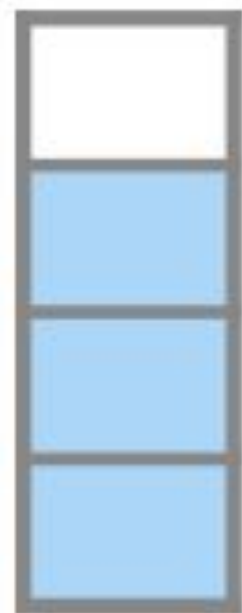
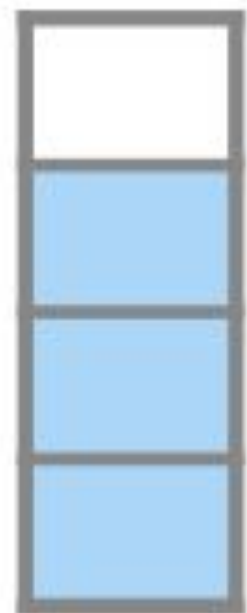
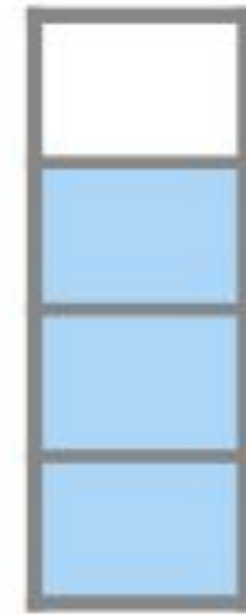
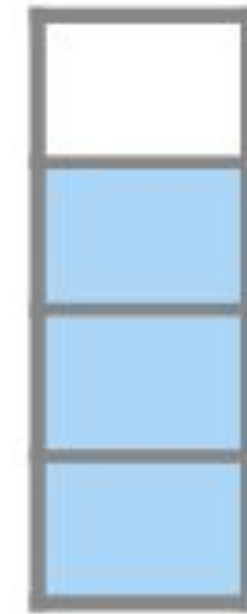
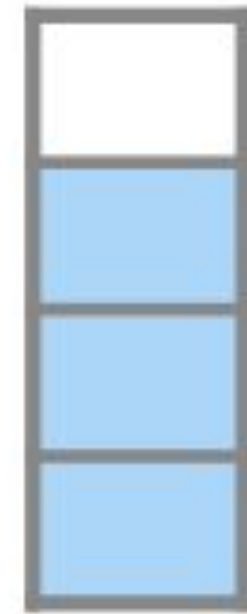
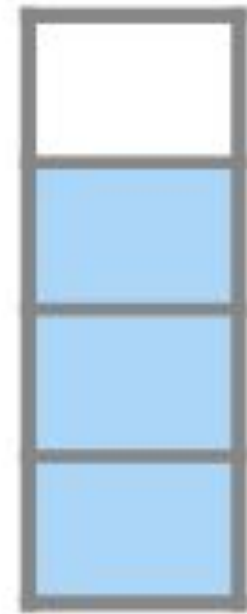
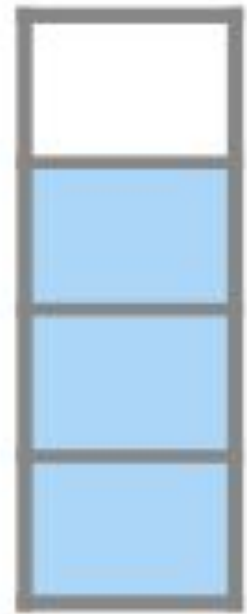
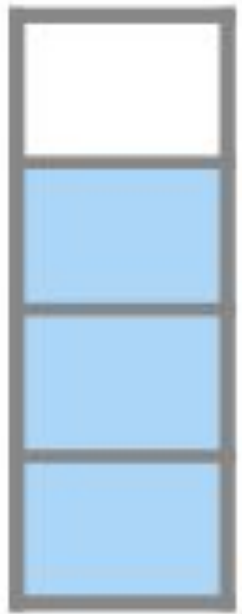
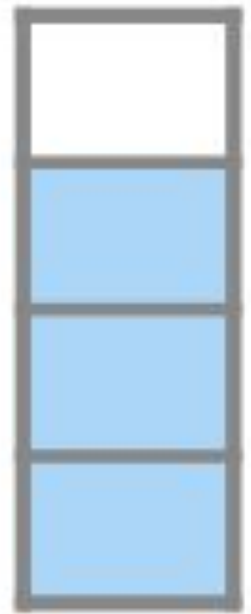
How Much?



1 whole:



How Much?



How Much?

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{3}$ $\frac{1}{3}$

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$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{3}$ $\frac{1}{3}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

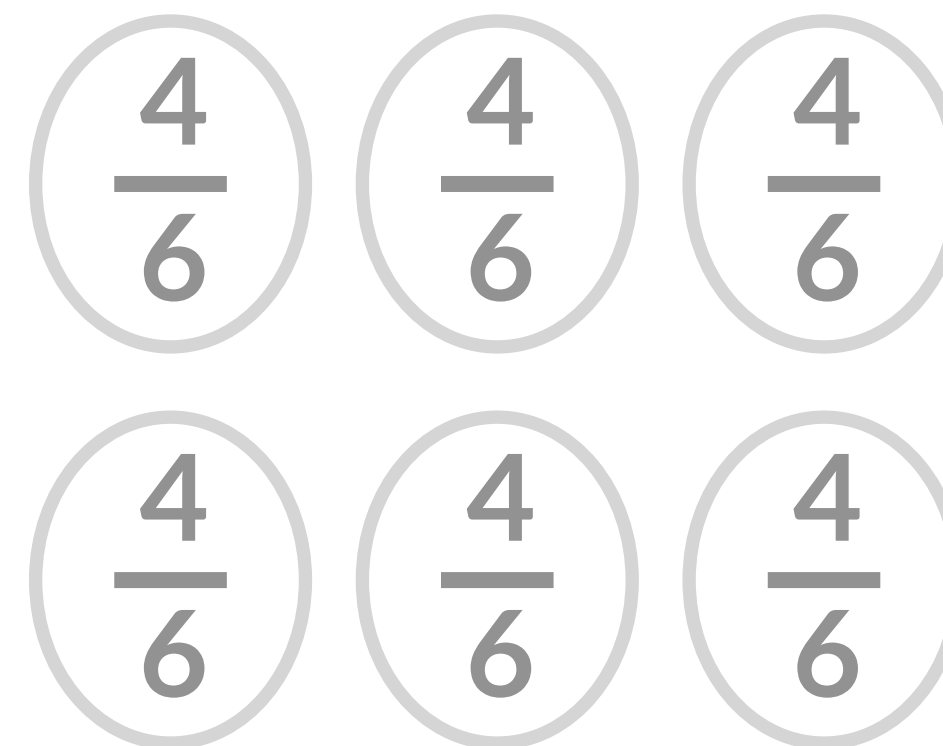
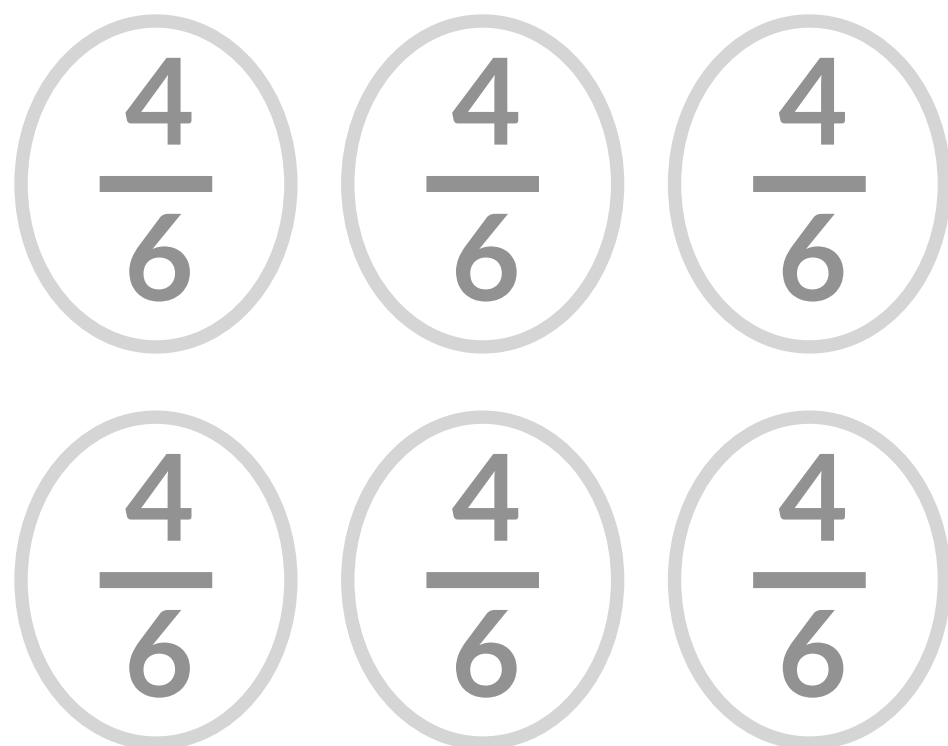
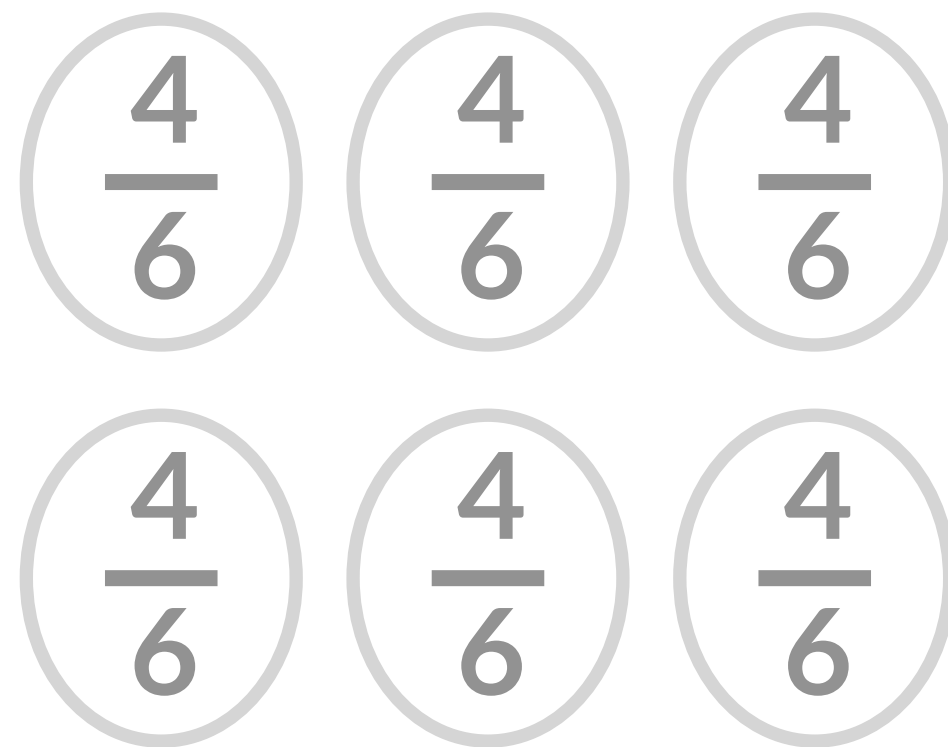
$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

$\frac{1}{6}$

How Much?



Ways to Make

$$\frac{5}{6}$$

Ways to Make

$$\frac{50}{4}$$

Ways to Make

$$1\frac{1}{8}$$

Ways to Make

**“Half as
much”**

Ways to Make

**“Two thirds
as much”**



Choral Counting by $\frac{2}{5}$ starting at $\frac{2}{5}$

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

$$\frac{4}{5}$$

$$\frac{6}{5}$$

$$\frac{8}{5}$$

$$\frac{10}{5}$$

$$\frac{12}{5}$$

$$\frac{14}{5}$$

$$\frac{16}{5}$$

$$\frac{18}{5}$$

$$\frac{20}{5}$$

$$\frac{22}{5}$$

$$\frac{24}{5}$$

$$\frac{26}{5}$$

$$\frac{28}{5}$$

$$\frac{30}{5}$$





Choral Counting by $\frac{1}{4}$ starting at $\frac{1}{4}$

$$\frac{1}{4}$$

$$\frac{2}{4}$$

$$\frac{3}{4}$$

$$\frac{4}{4}$$

$$\frac{5}{4}$$

$$\frac{6}{4}$$

$$\frac{7}{4}$$

$$\frac{8}{4}$$

$$\frac{9}{4}$$

$$\frac{10}{4}$$

$$\frac{11}{4}$$

$$\frac{12}{4}$$

$$\frac{13}{4}$$

$$\frac{14}{4}$$

$$\frac{15}{4}$$

$$\frac{16}{4}$$

$$\frac{17}{4}$$

$$\frac{18}{4}$$

$$\frac{19}{4}$$

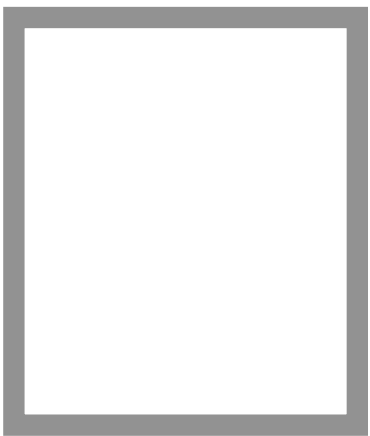
$$\frac{20}{4}$$

$$\frac{21}{4}$$

$$\frac{22}{4}$$

$$\frac{23}{4}$$

$$\frac{24}{4}$$

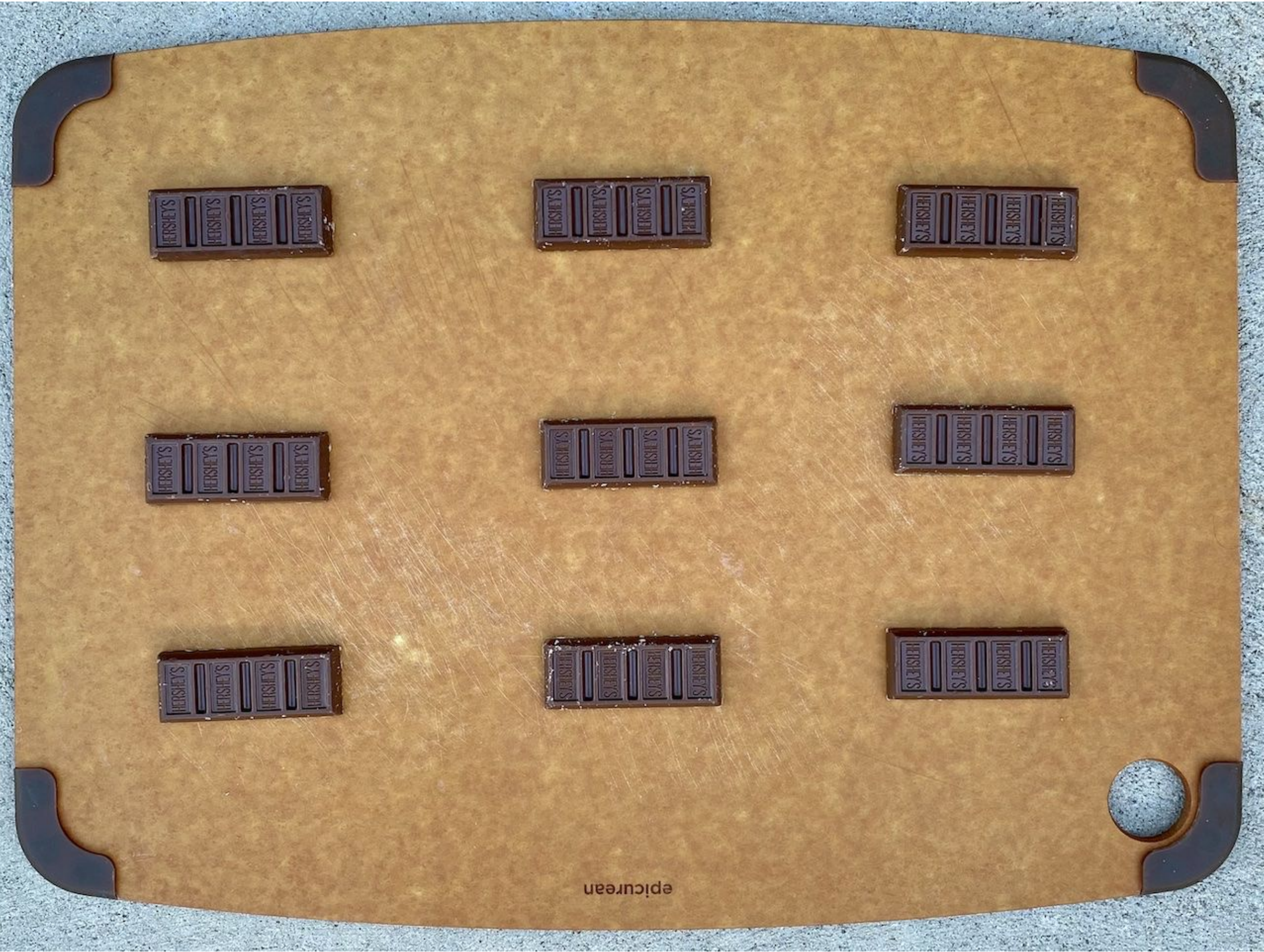


A green triangle in the top right corner of the slide, with a gradient from light green to a darker green.

Focus:

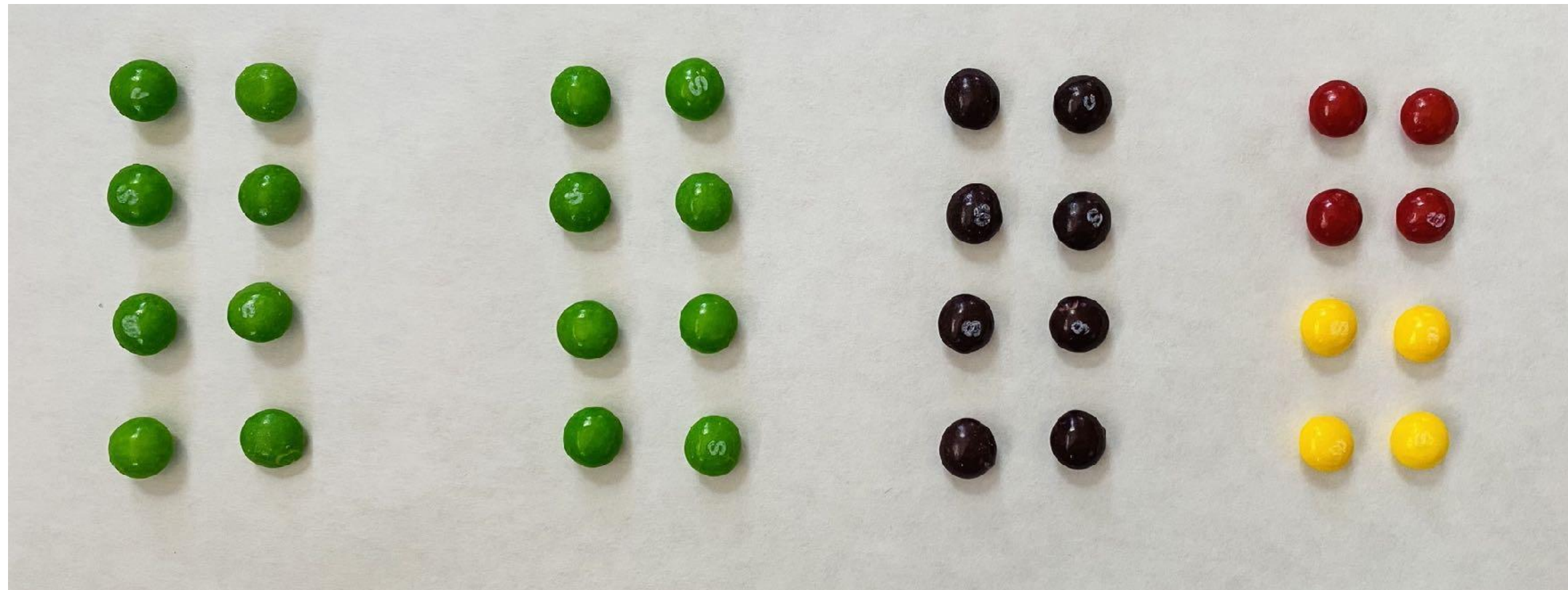
Multiplication and Division

Same and Different



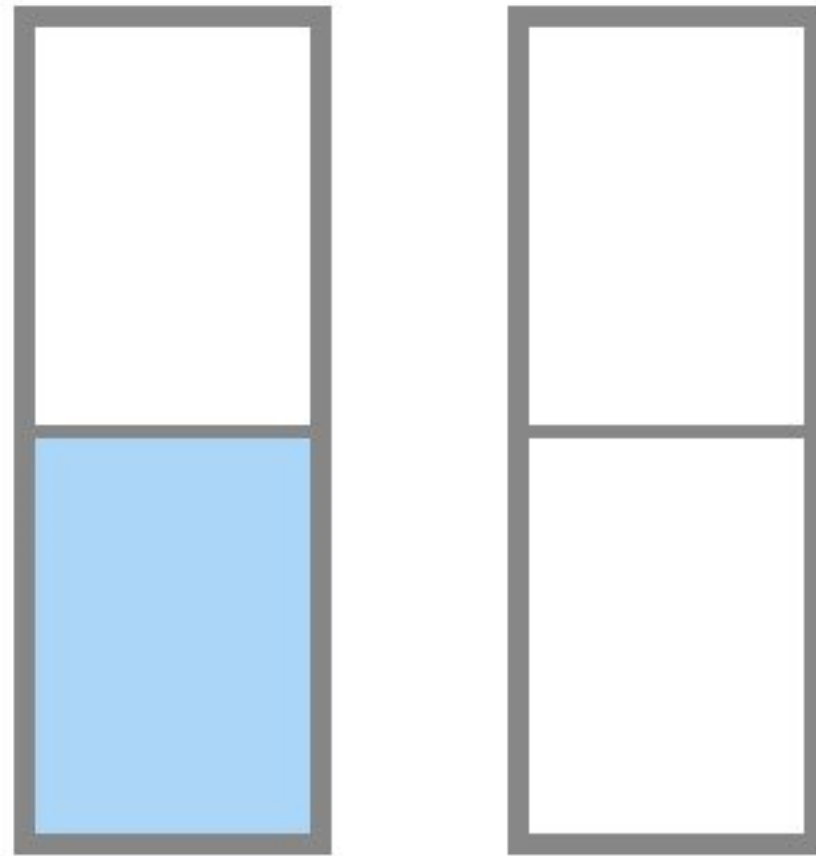
$$\text{---} \times \frac{1}{4} = 9$$

Same and Different



$$32 \times \frac{1}{8} = 4$$

Same and Different



$\frac{1}{4}$ of 8

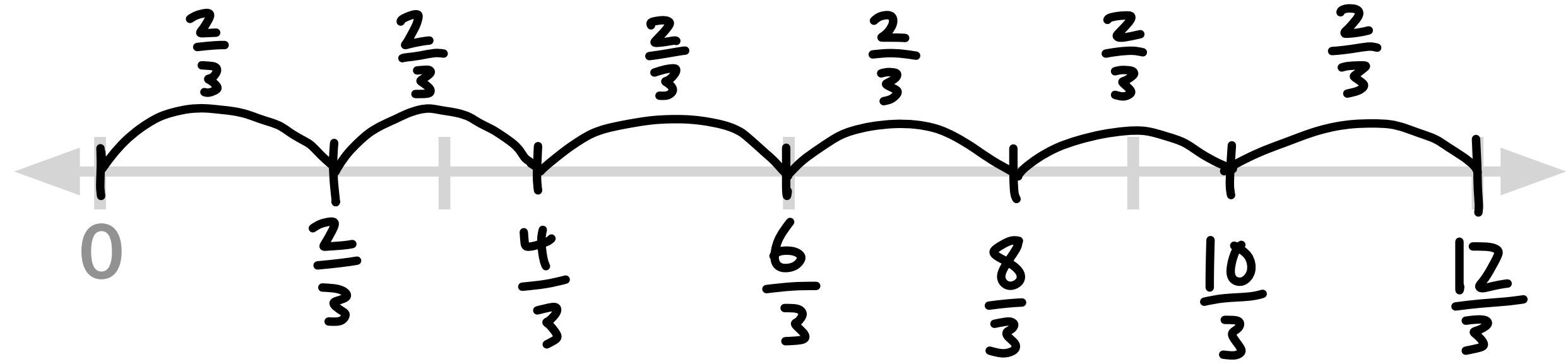
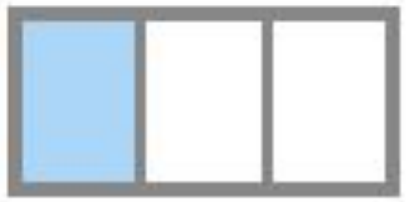
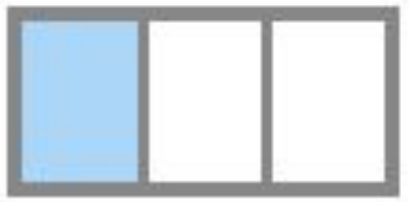
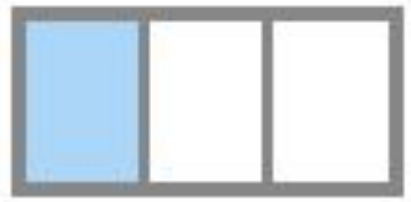
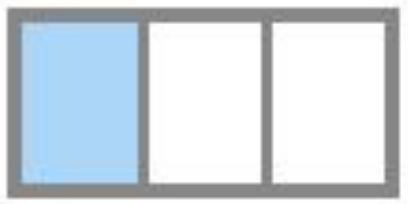
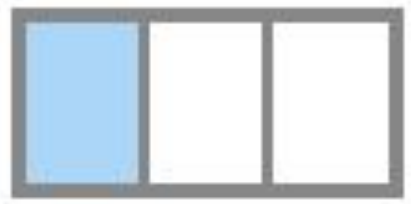
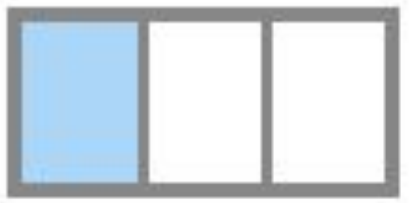
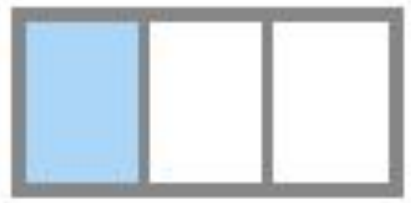
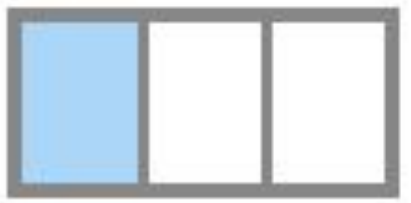
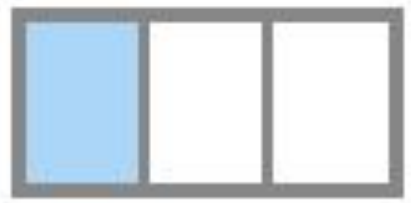
Same and Different



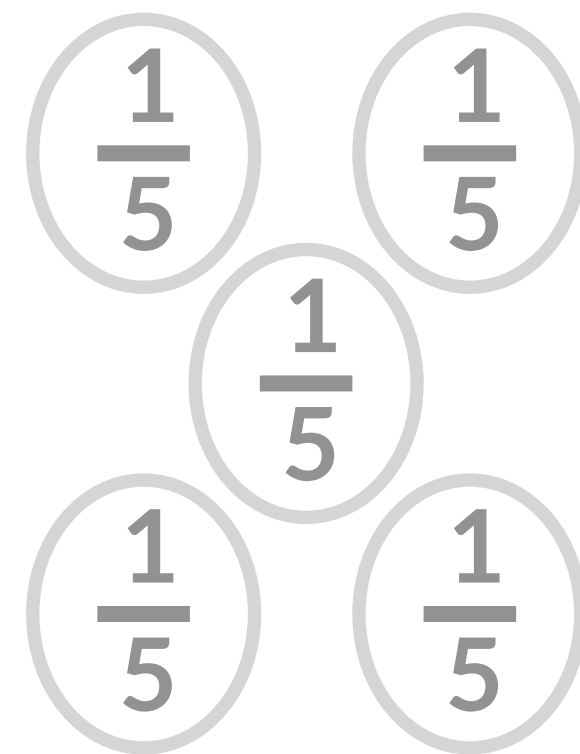
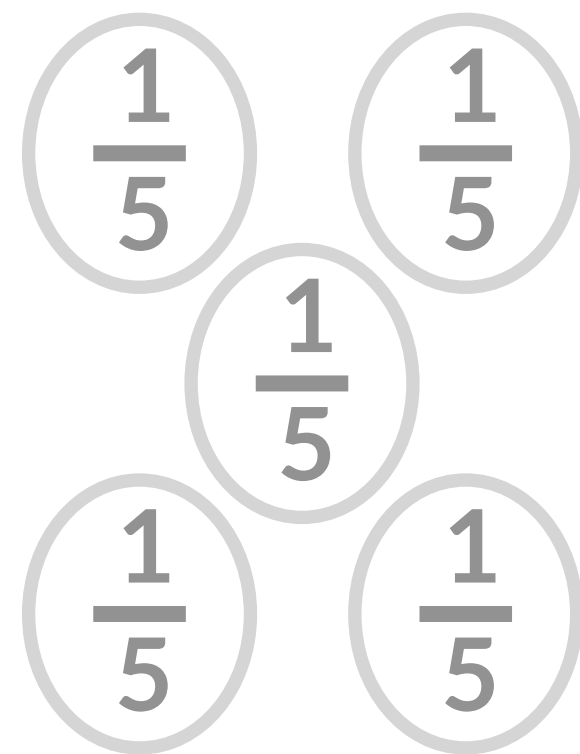
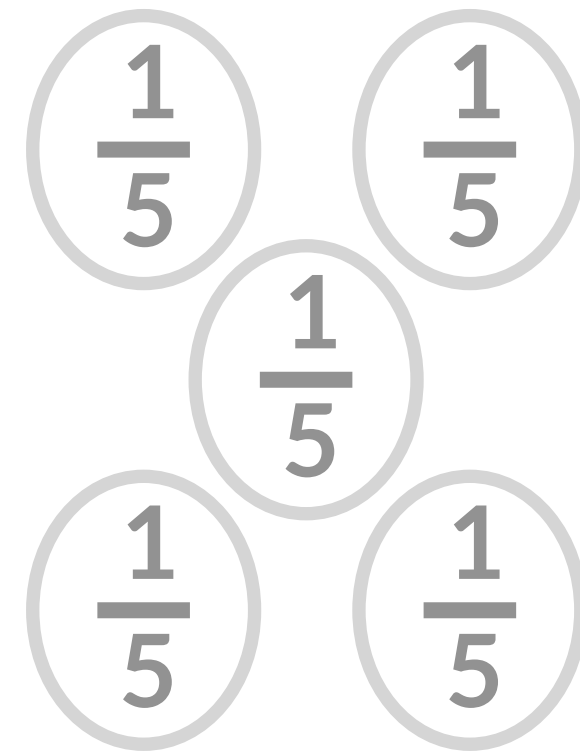
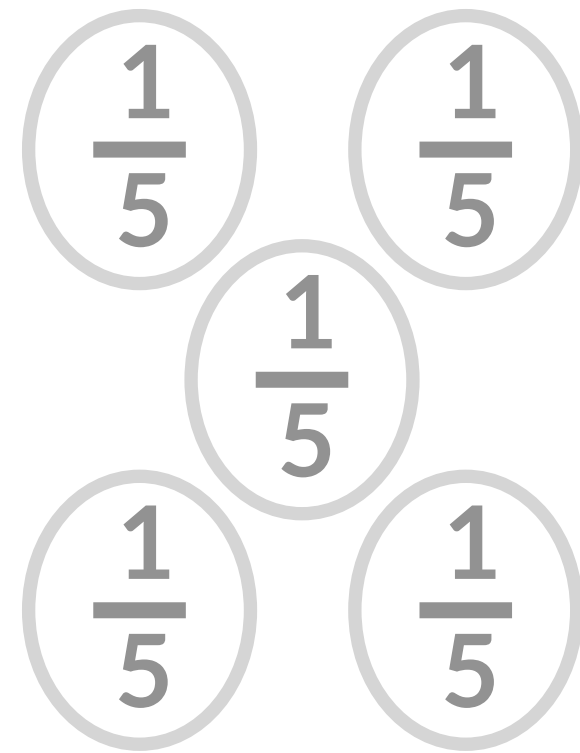
How many halves
are in $3\frac{1}{2}$?

Same and Different

1 whole:



Same and Different

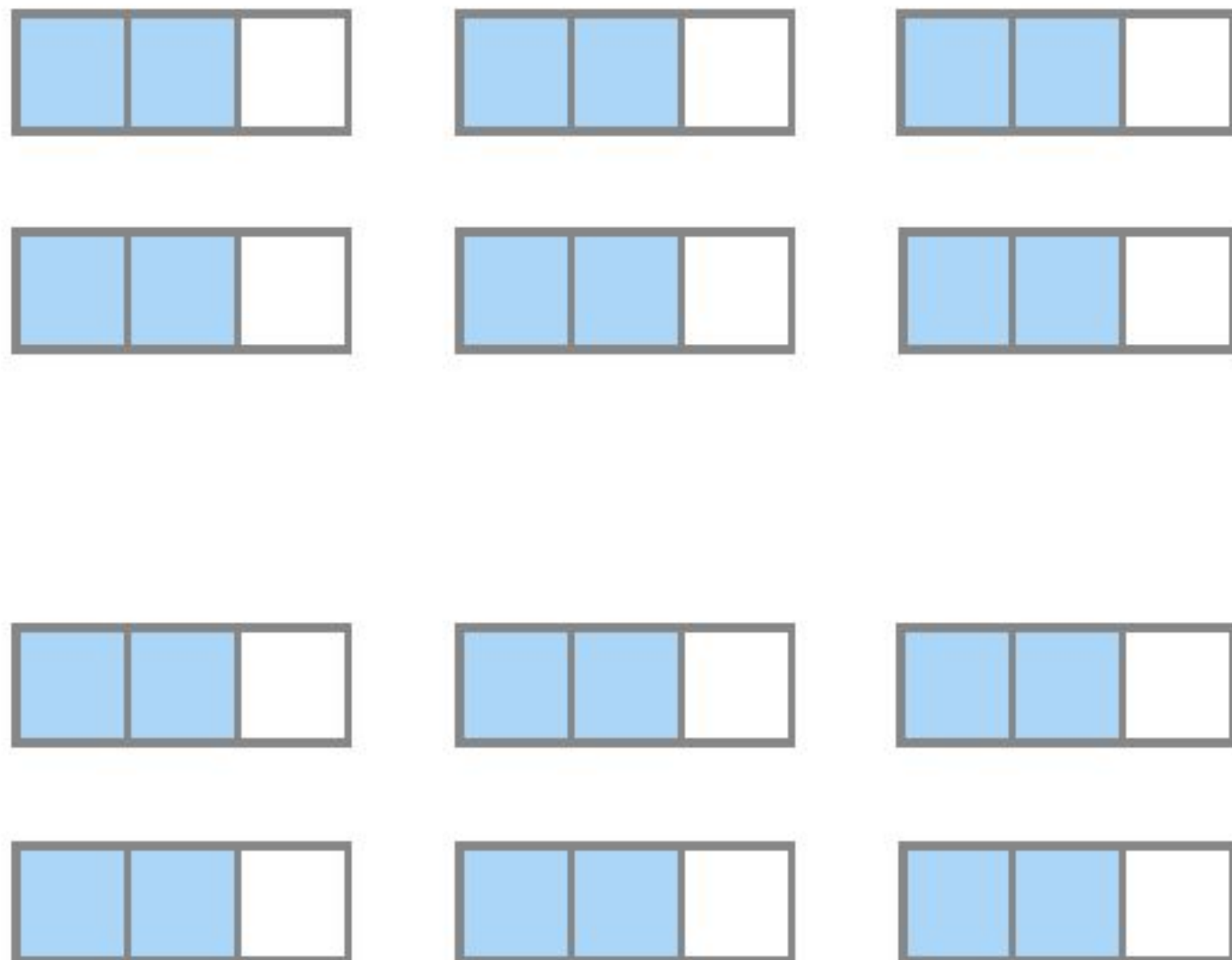


How many fifths are in
4 wholes?

1 whole:

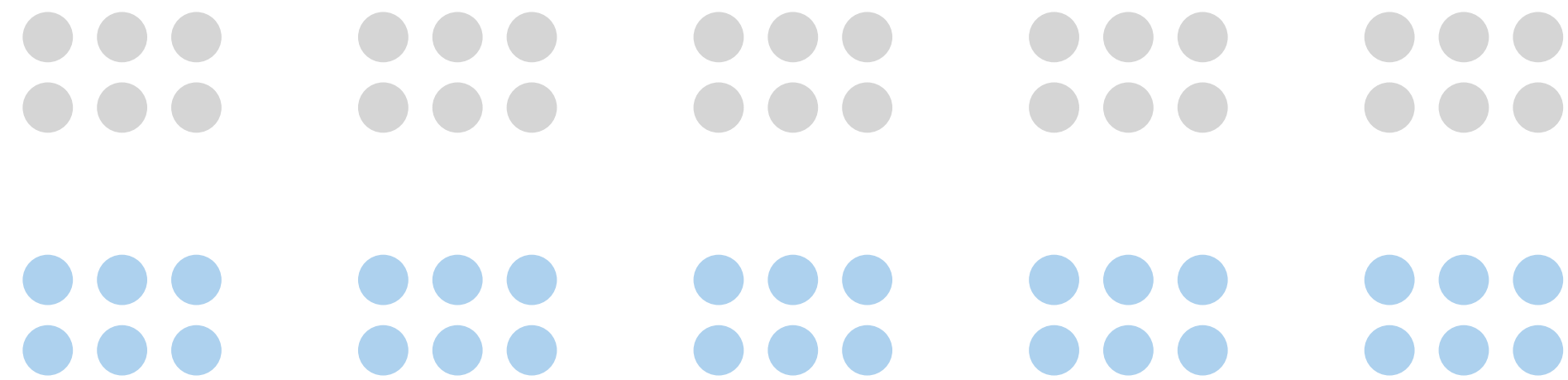


Same and Different



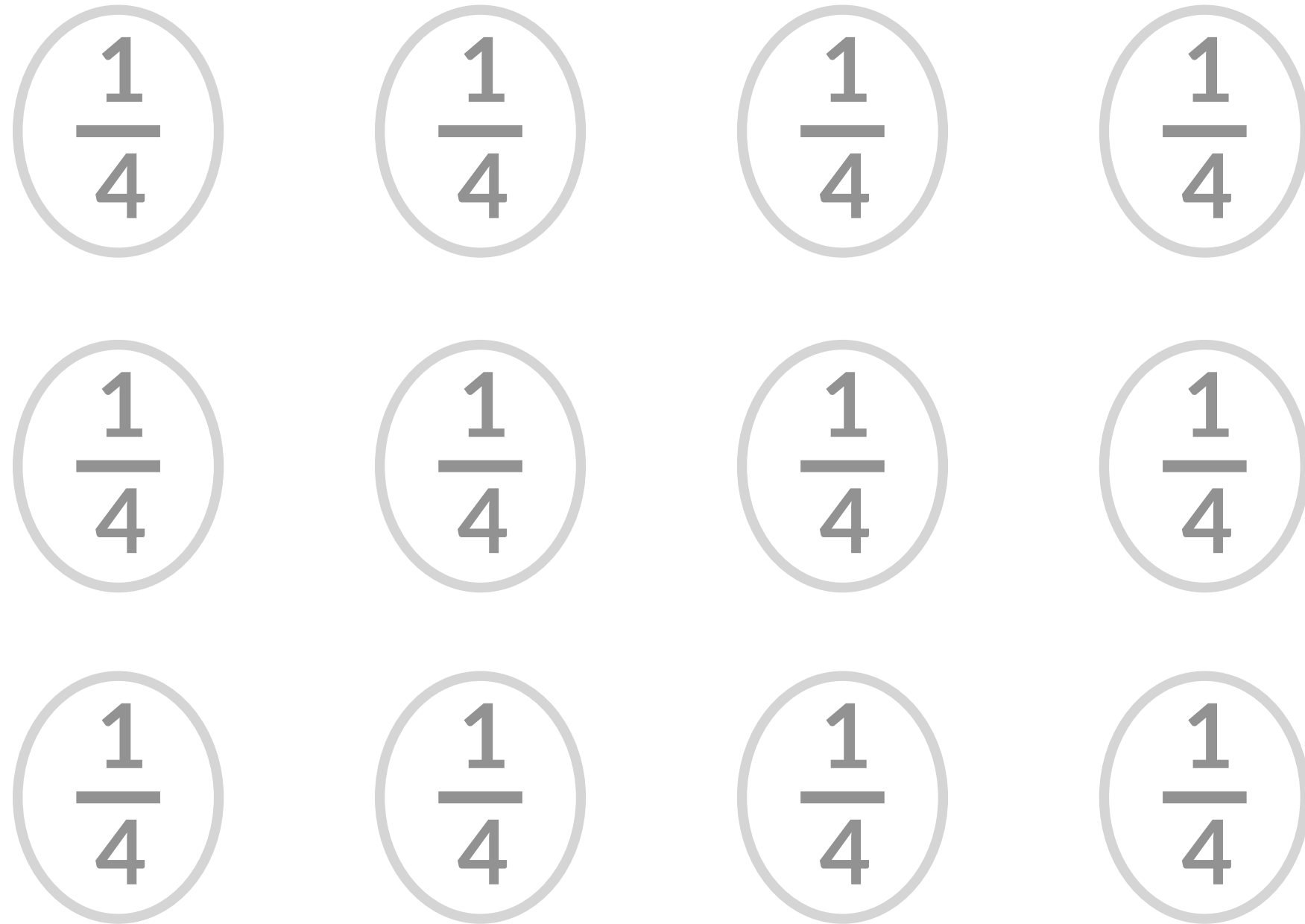
$$(6 + 6) \times \frac{4}{6}$$

Same and Different



$\frac{1}{2}$ of 60

Same and Different



$$4 \times \left(\frac{1}{4} \times 3 \right)$$

Same and Different

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

$$8\frac{1}{2} + 8\frac{1}{2} + 8\frac{1}{2}$$

Same and Different



$$4 \div \frac{1}{2}$$

Same and Different



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

6 cut in half

Same and Different

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

$$1 \div \frac{1}{4}$$

Same and Different

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

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

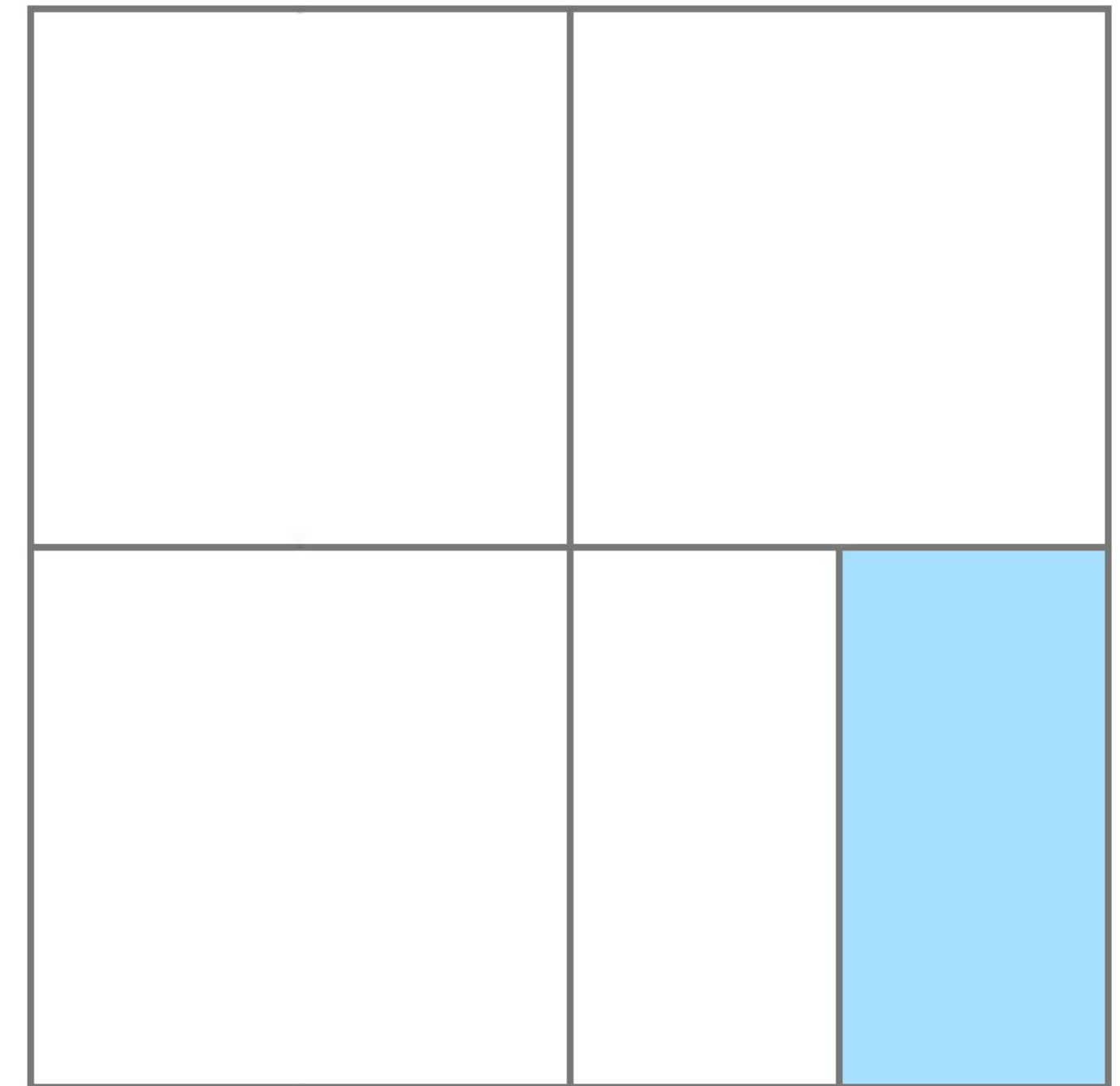
Same and Different

$$8 \times \frac{3}{4}$$

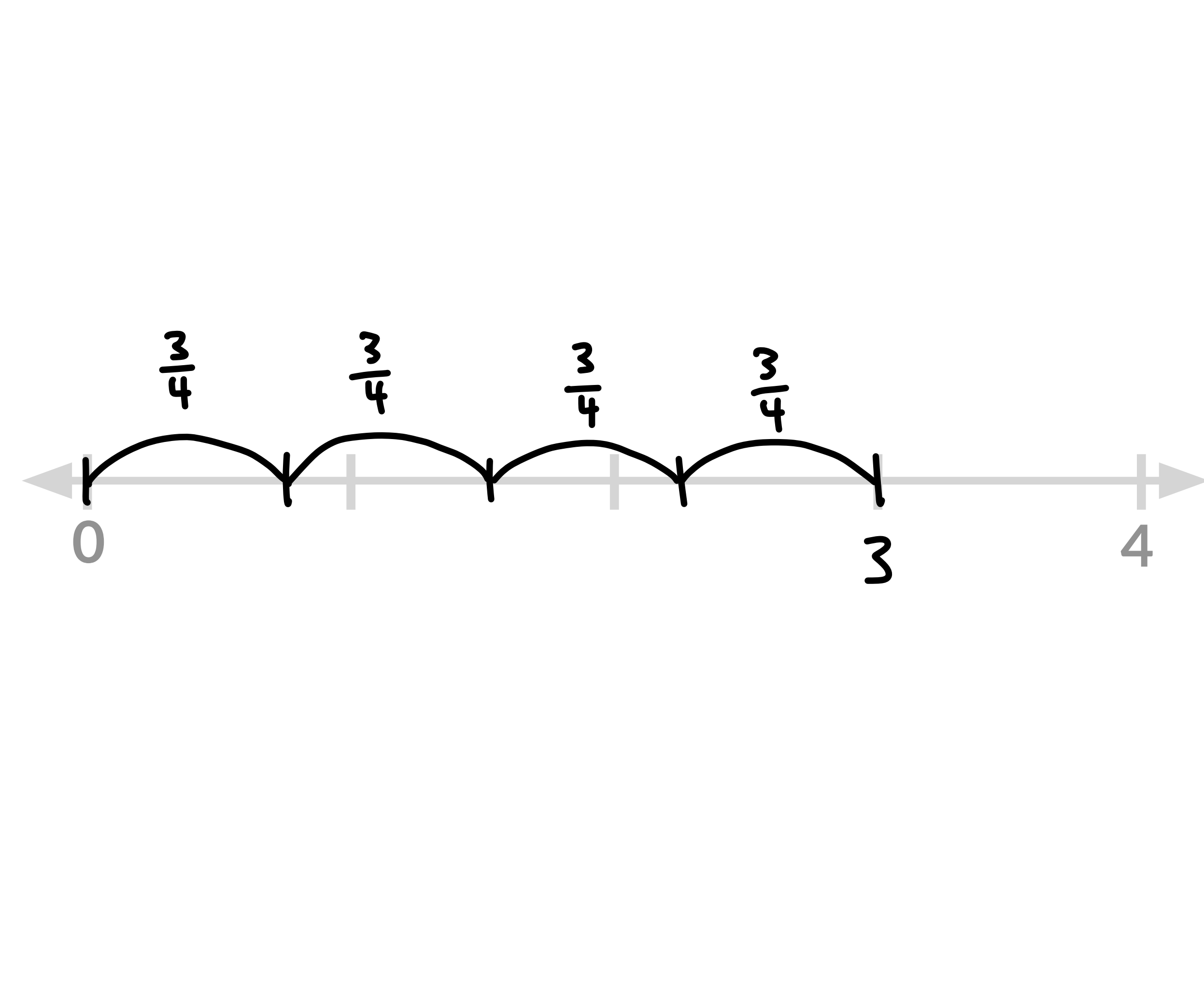
$$8 \times \frac{1}{4} \times 3$$

Same and Different

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

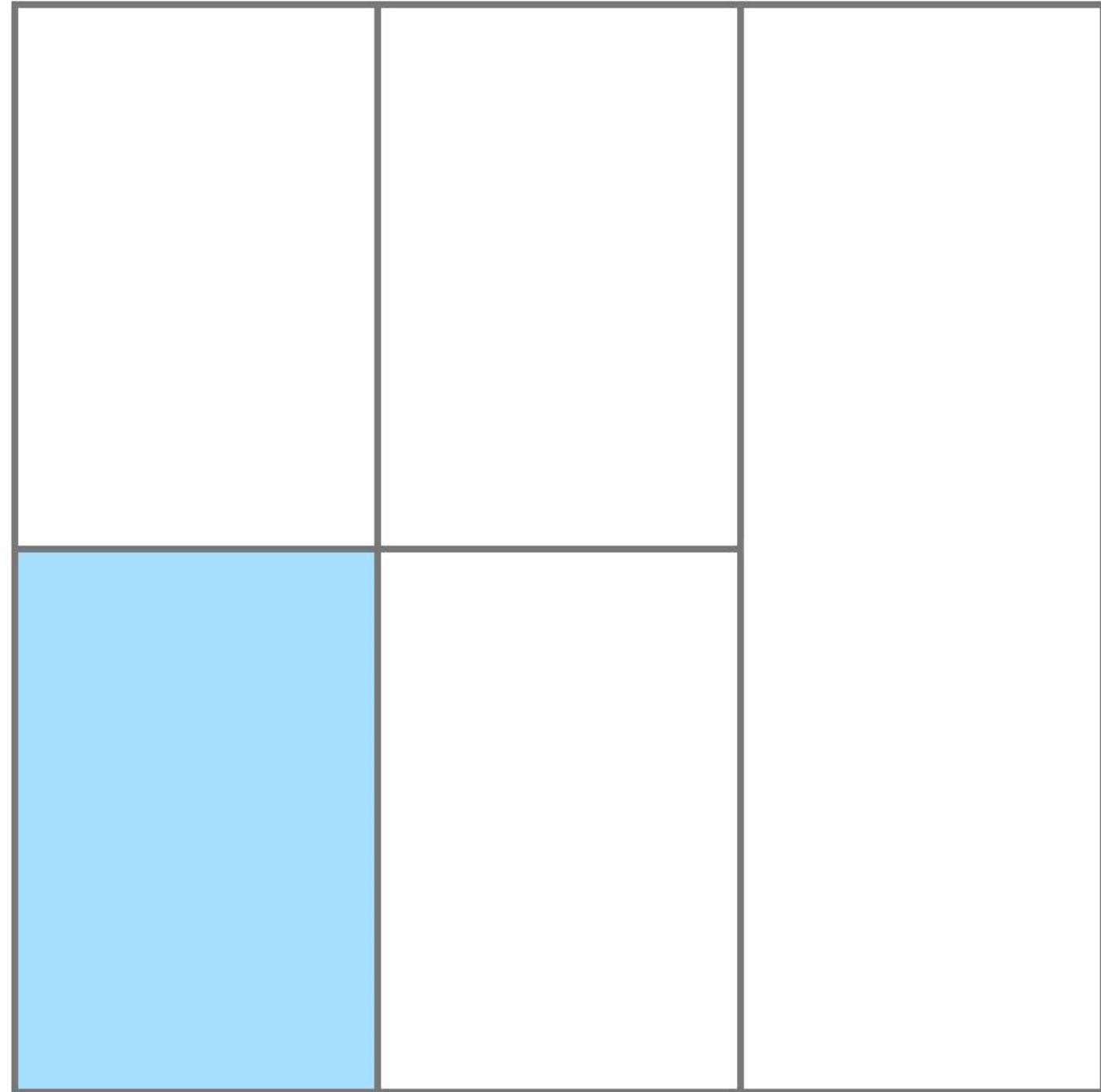


Same and Different



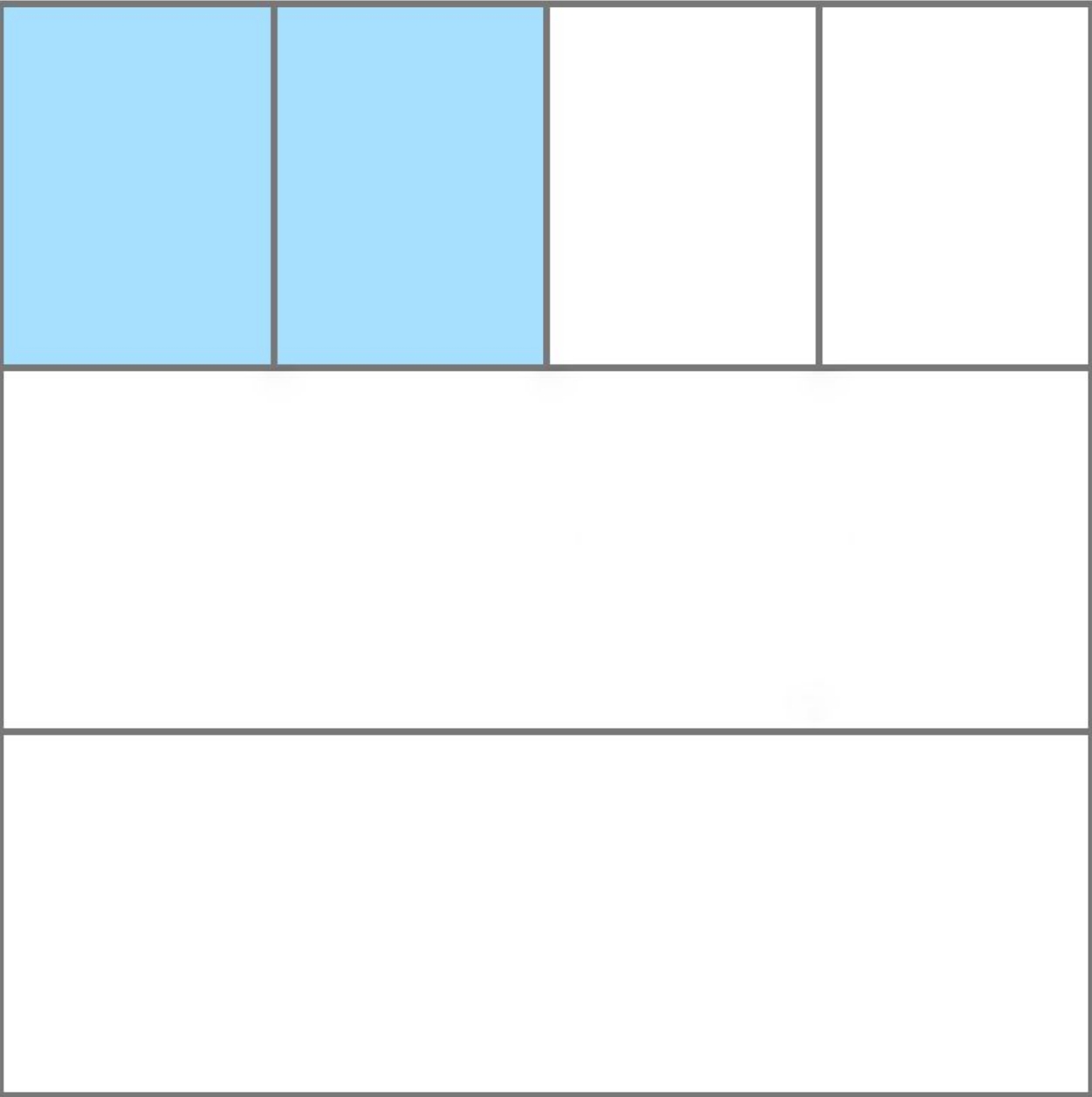
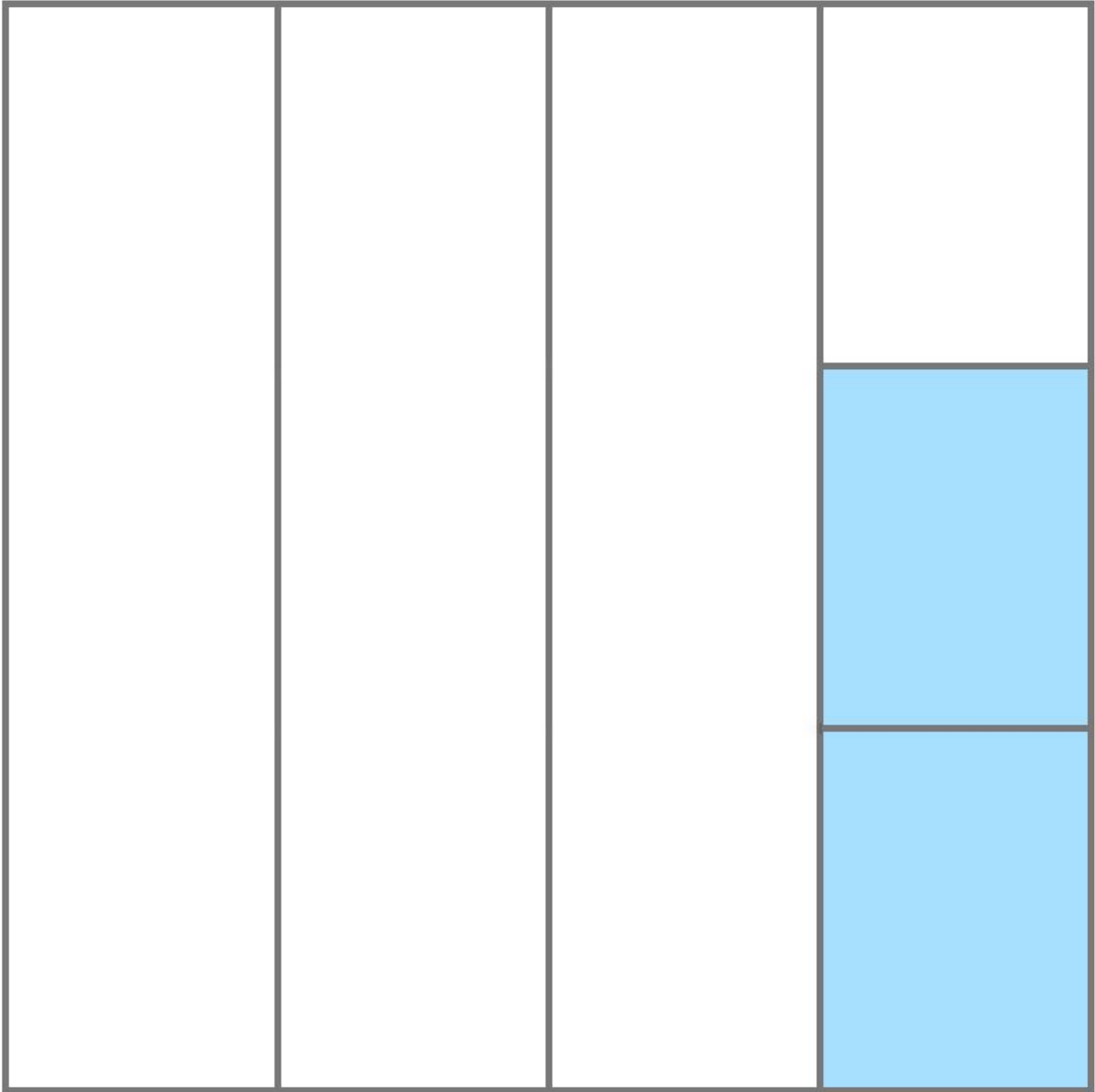
$$3 \div \frac{1}{4}$$

Same and Different



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

Same and Different



True or False?

$$4 \times \frac{1}{6} = \frac{4}{6}$$

$$4 \times \frac{3}{6} = 4 \times 3 \times \frac{1}{6}$$

$$4 \times \frac{2}{5} = \underline{\hspace{2cm}}$$

True or False?

$$2 = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

$$2 \div \frac{1}{4} = 8$$

$$3 \div \underline{\hspace{1cm}} = 9$$



Focus:

Addition and Subtraction

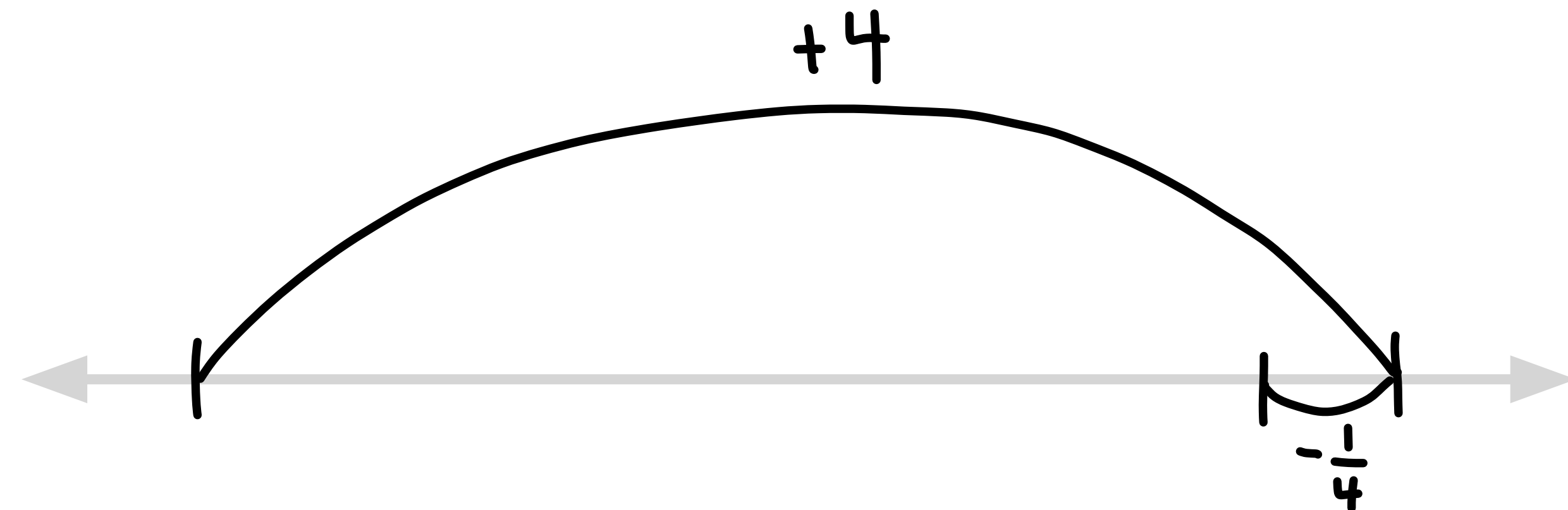
Same and Different

$$\frac{7}{8} + \frac{5}{8}$$

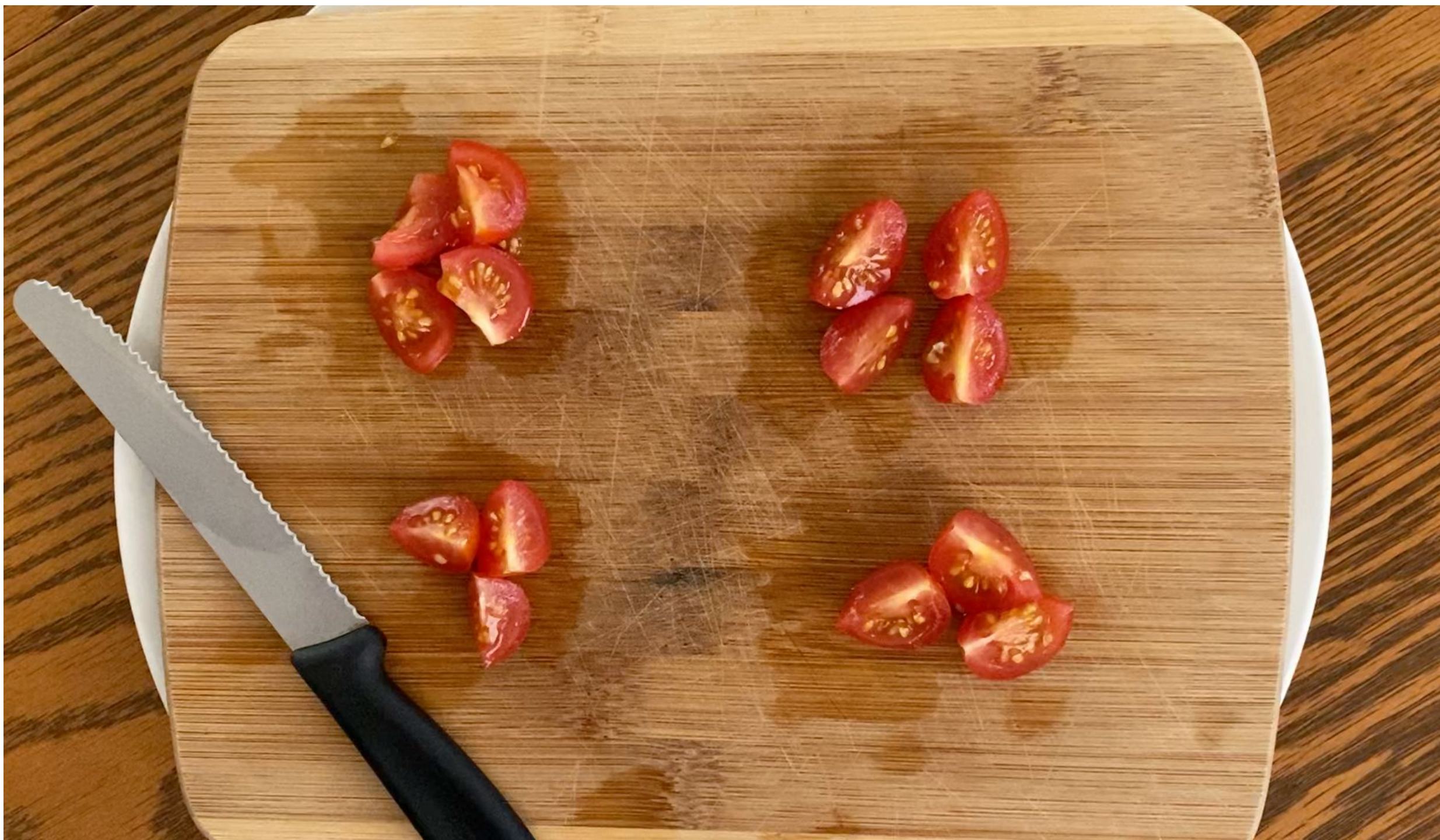
$$(7 + 3) + 2 = 7 + 5$$

Same and Different

$$2\frac{1}{2} + 3\frac{3}{4}$$

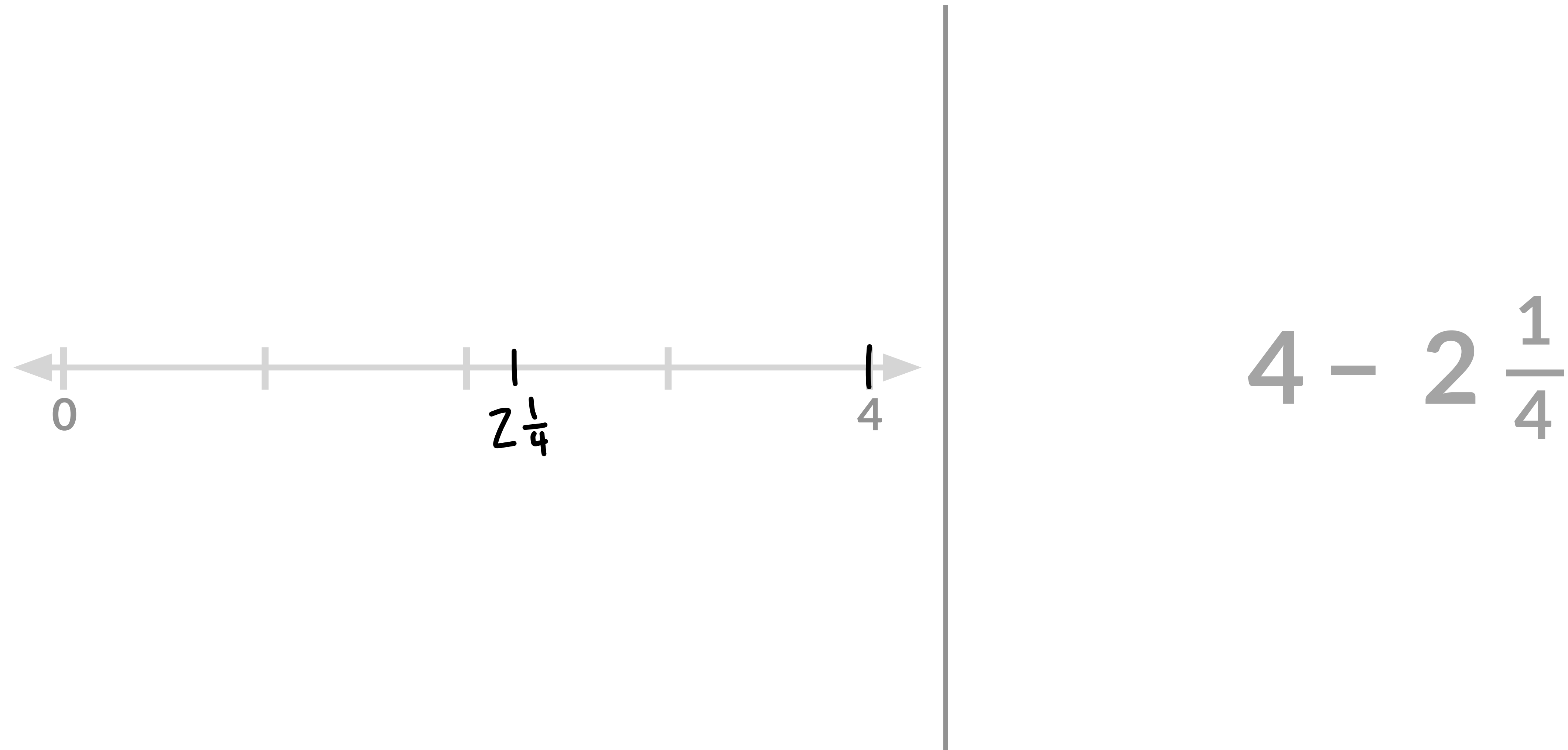


Same and Different



$$4 - \frac{1}{2} = \underline{\hspace{2cm}}$$

Same and Different



True or False?

$$\frac{7}{8} + \frac{1}{4} = \frac{7}{8} + \frac{1}{8} + \frac{1}{8}$$

$$\frac{1}{2} + \frac{5}{6} = \frac{1}{2} + \frac{1}{2} + \frac{2}{6}$$

$$\frac{9}{10} + \frac{1}{5} = \frac{9}{10} + \frac{1}{10} + \underline{\hspace{1cm}}$$

True or False?

$$2\frac{1}{2} - \frac{3}{4} = 2\frac{1}{2} - \frac{1}{2} - \frac{1}{4}$$

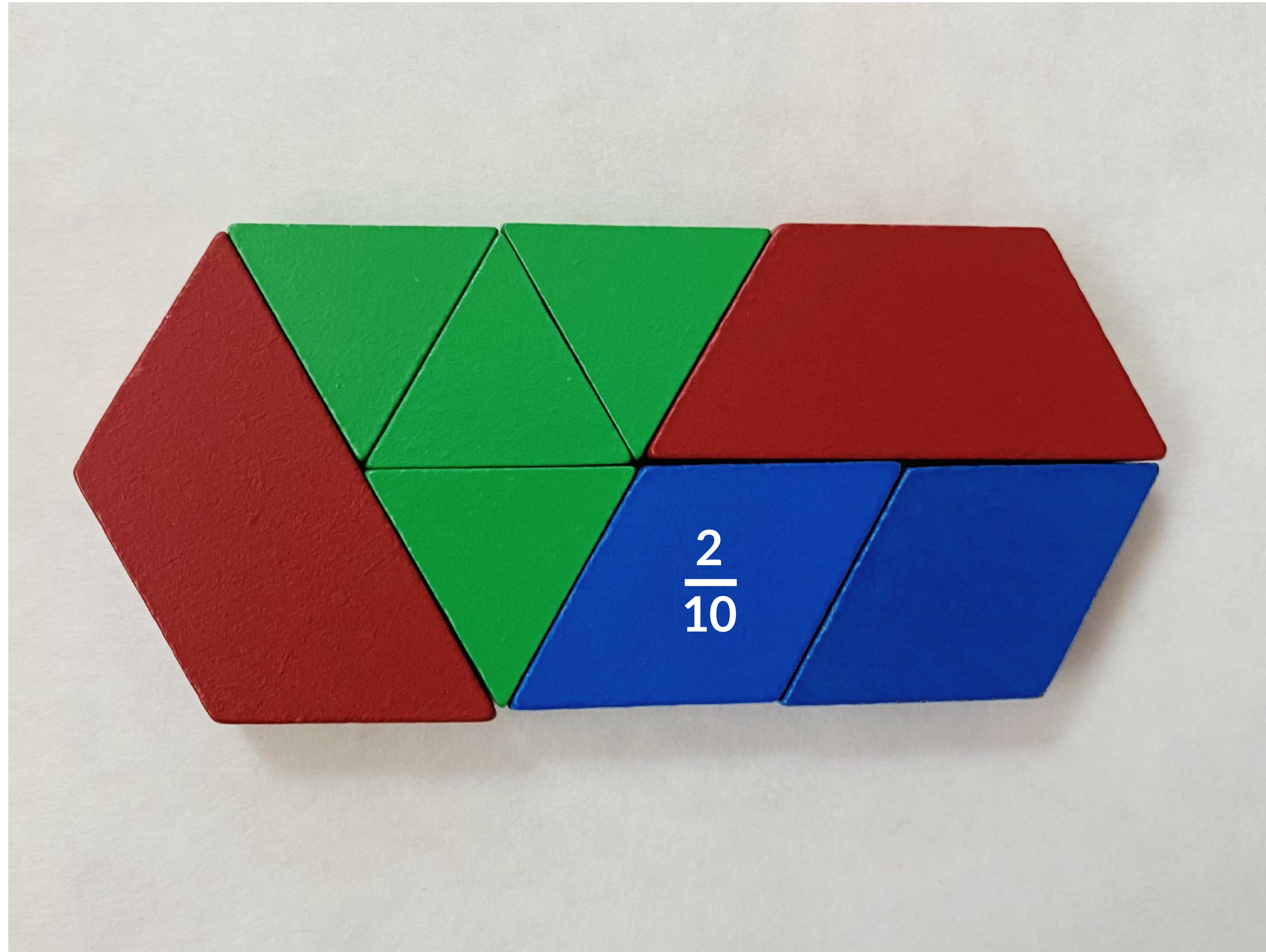
$$1\frac{1}{4} - \frac{5}{8} = 1\frac{1}{4} - \frac{1}{4} - \frac{4}{8}$$

$$3\frac{1}{3} - \frac{4}{6} = 3\frac{1}{3} - \underline{\hspace{1cm}} - \frac{2}{6}$$

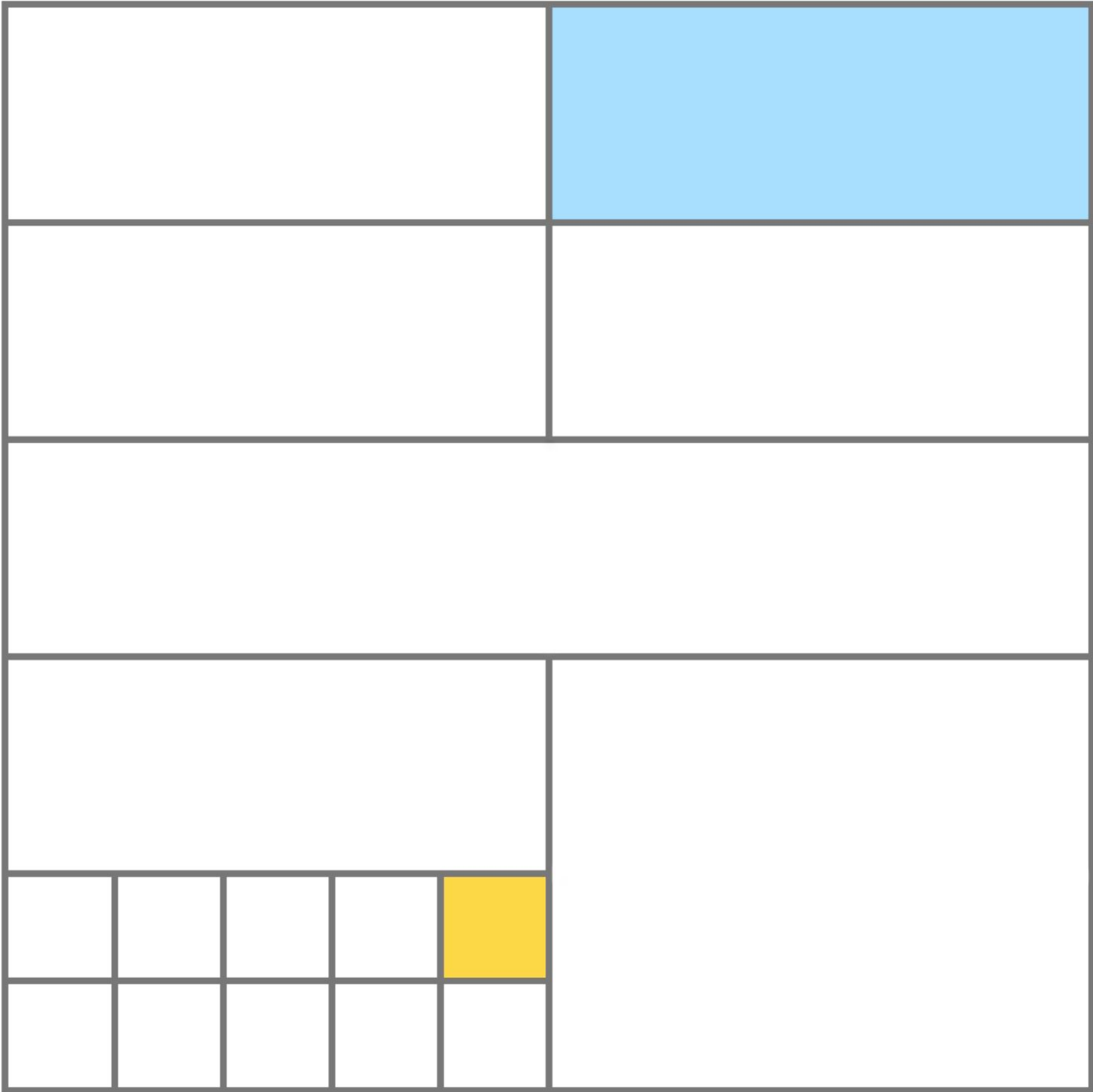
Fractions

Decimals

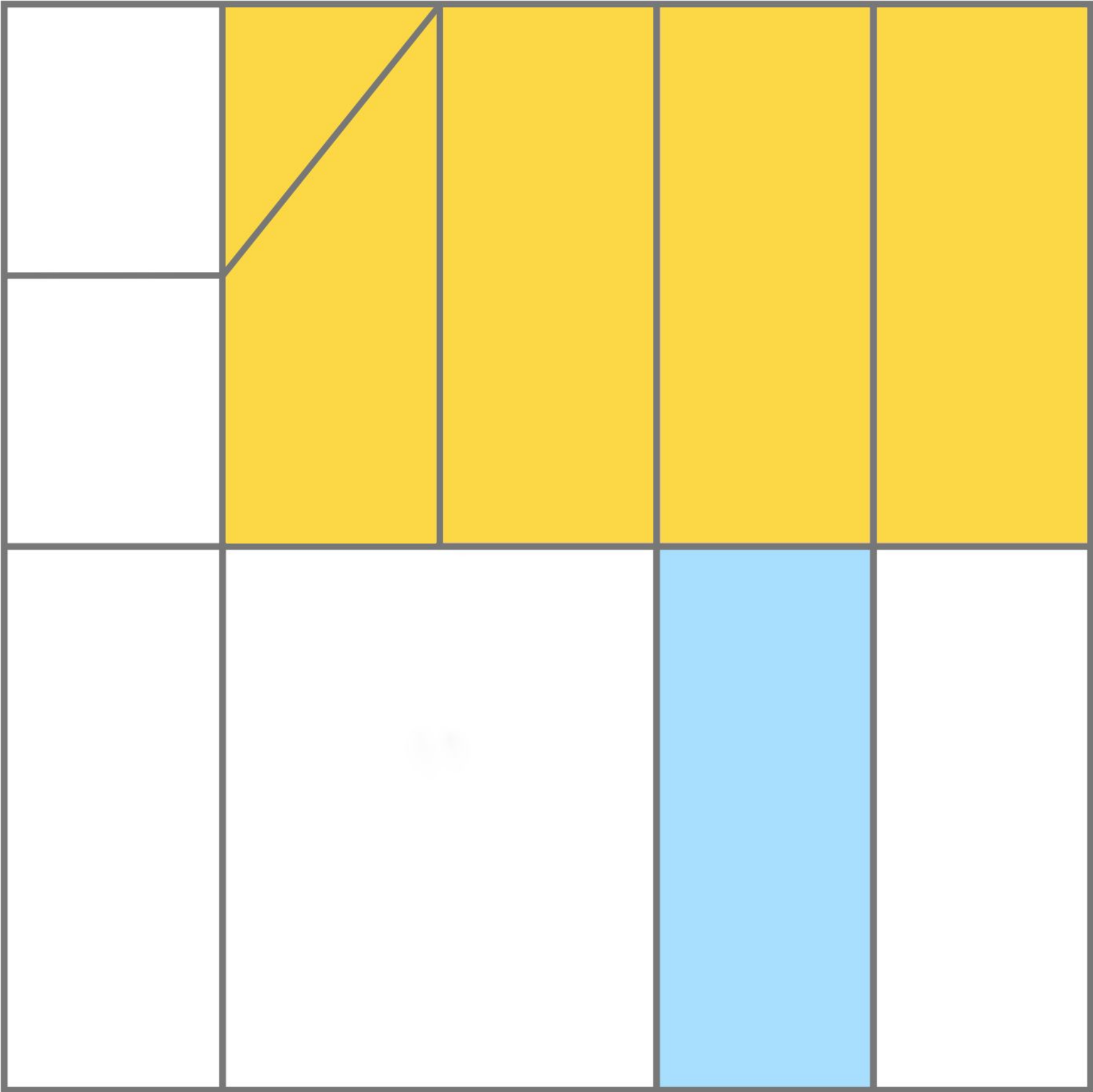
How Much?



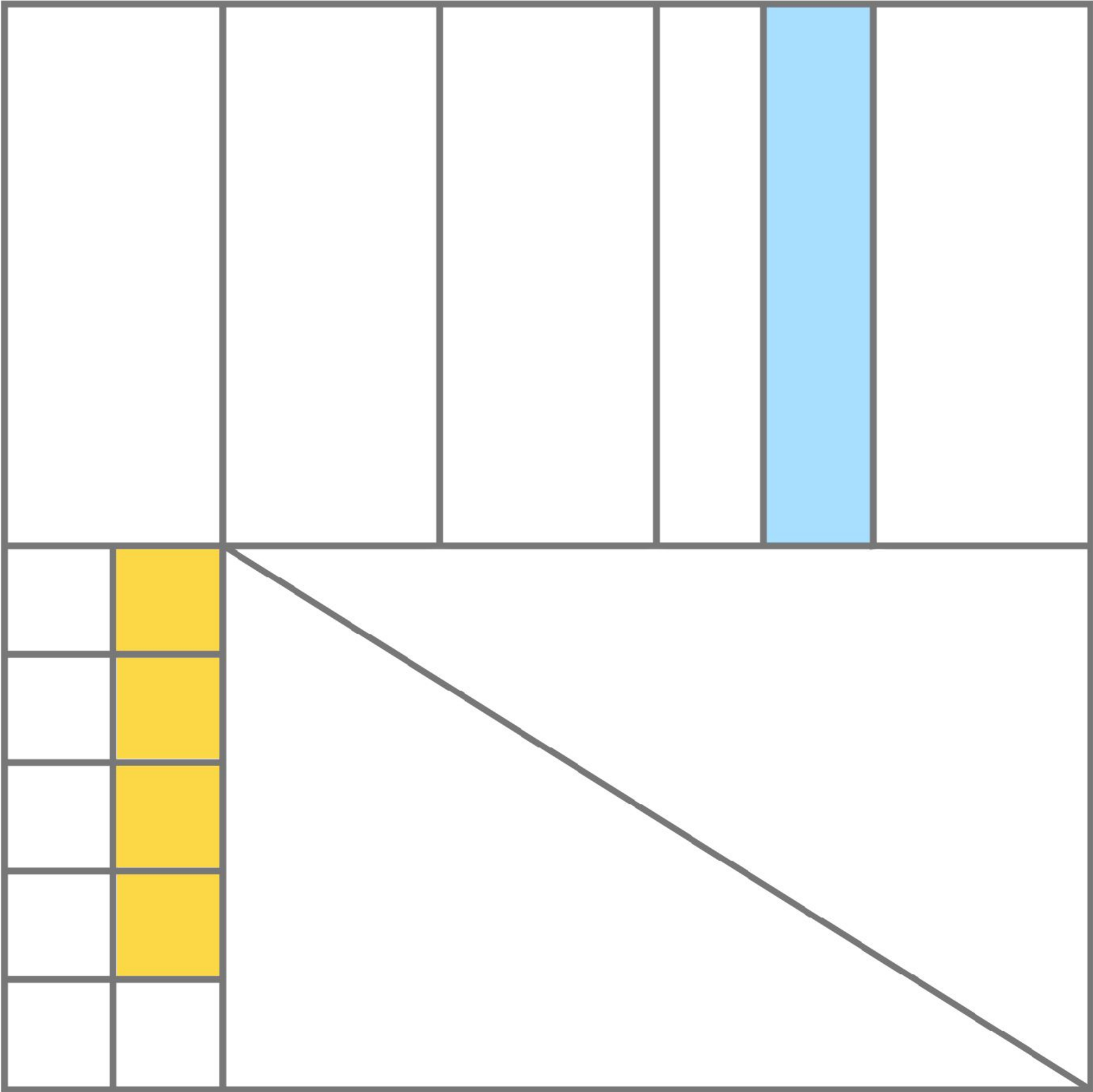
How Much?



How Much?



How Much?



How Much?



How Much?

0.01 0.01
0.01 0.01
0.01 0.01
0.01 0.01
0.01 0.01

0.01 0.01
0.01 0.01
0.01 0.01
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0.01 0.01
0.01 0.01
0.01 0.01

How Much?



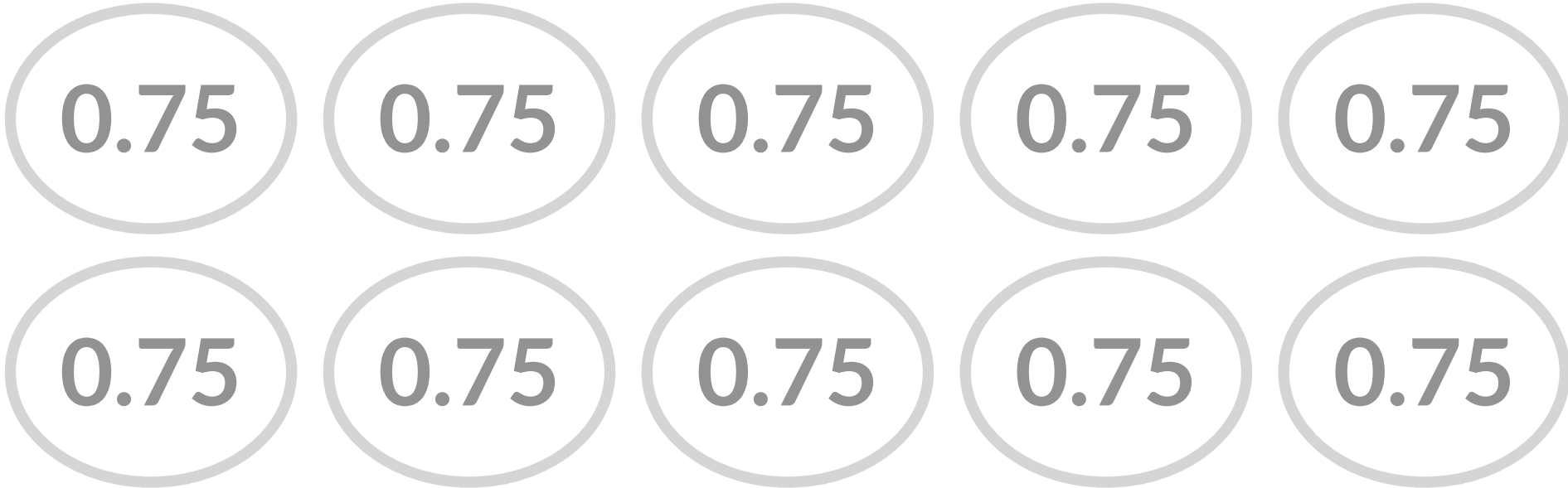
How Much?



How Much?



How Much?



Ways to Make

$$\frac{4}{10}$$

Ways to Make

$$\frac{72}{10}$$

Ways to Make

$$\frac{56}{100}$$

Ways to Make

$$\frac{228}{100}$$

Ways to Make

$$4\frac{2}{10}$$

Ways to Make

2.45

Ways to Make

0.75



Choral Counting by $\frac{1}{10}$ starting at $\frac{1}{10}$

$$\frac{1}{10}$$

$$\frac{2}{10}$$

$$\frac{3}{10}$$

$$\frac{4}{10}$$

$$\frac{5}{10}$$

$$\frac{6}{10}$$

$$\frac{7}{10}$$

$$\frac{8}{10}$$

$$\frac{9}{10}$$

$$\frac{10}{10}$$

$$\frac{11}{10}$$

$$\frac{12}{10}$$

$$\frac{13}{10}$$

$$\frac{14}{10}$$

$$\frac{15}{10}$$





Choral Counting by 0.01 starting at 0.01

0.01	0.11	0.21	0.31
0.02	0.12	0.22	0.32
0.03	0.13	0.23	0.33
0.04	0.14	0.24	0.34
0.05	0.15	0.25	
0.06	0.16	0.26	
0.07	0.17	0.27	
0.08	0.18	0.28	
0.09	0.19	0.29	
0.10	0.20	0.30	





Choral Counting by 0.25 starting at 0.25

0.25	0.50	0.75	1.00
1.25	1.50	1.75	2.00
2.25	2.50	2.75	3.00
3.25	3.50	3.75	4.00
4.25	4.50	4.75	5.00

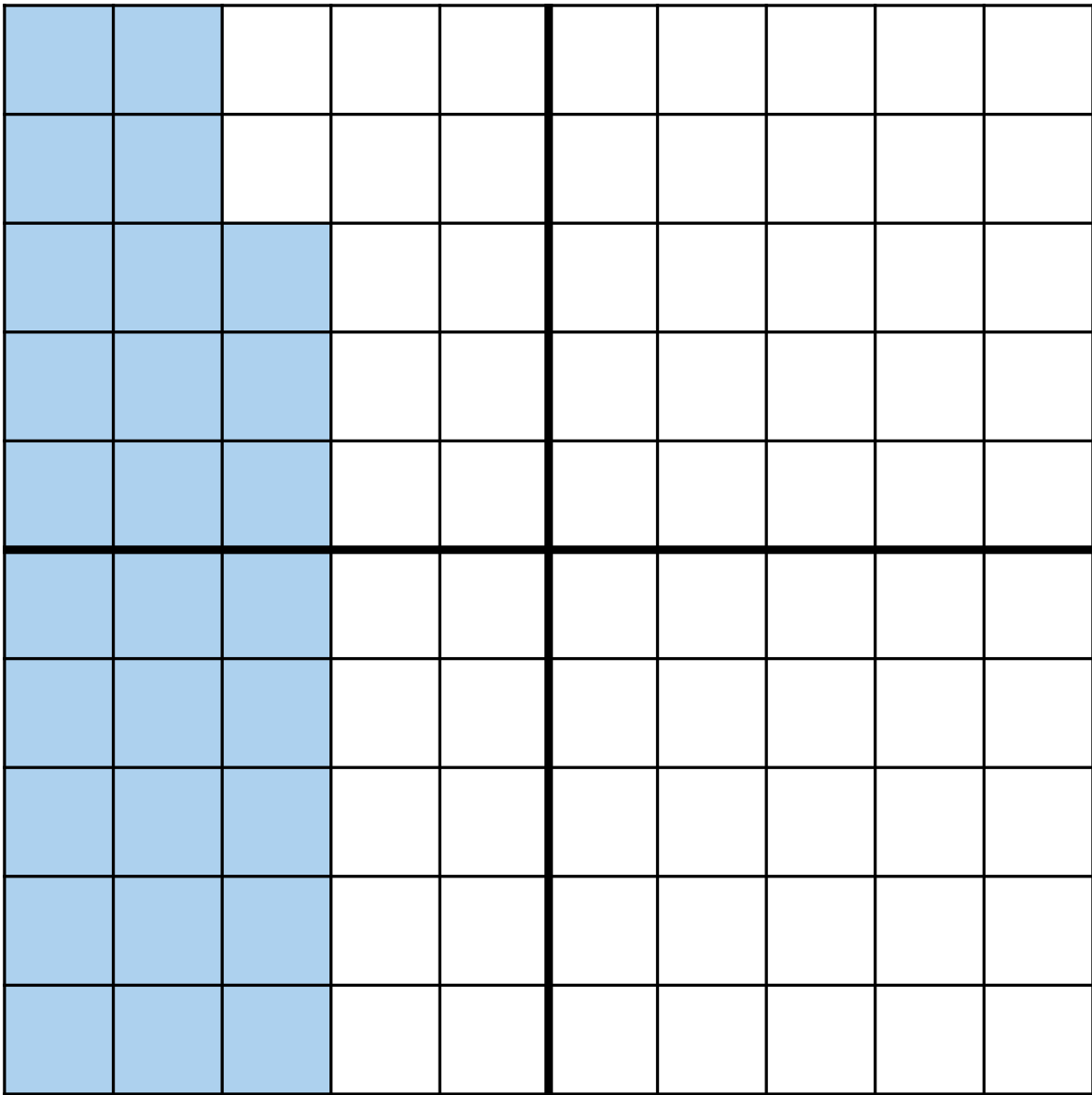




Focus:

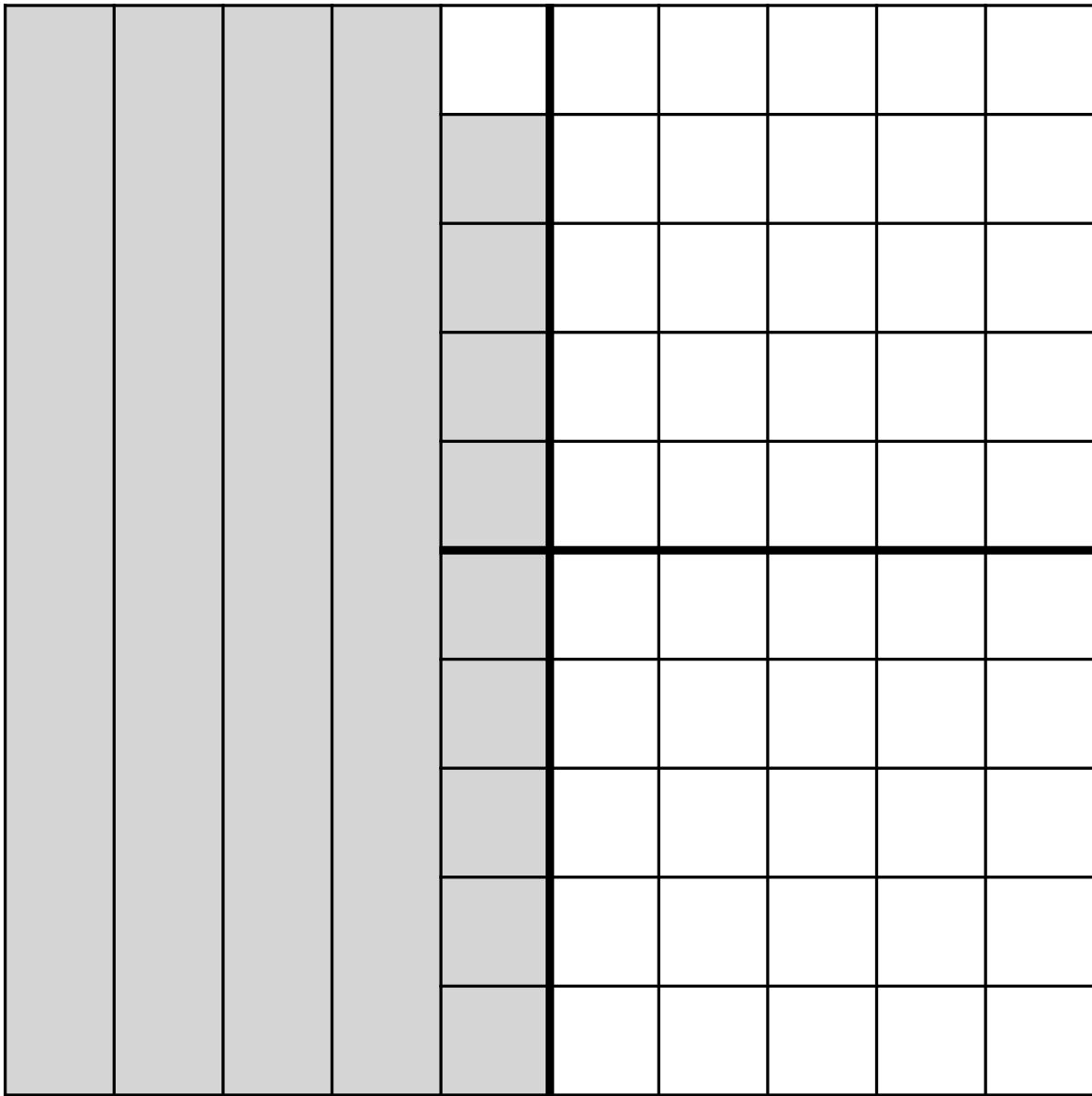
Context / Representation

Same and Different



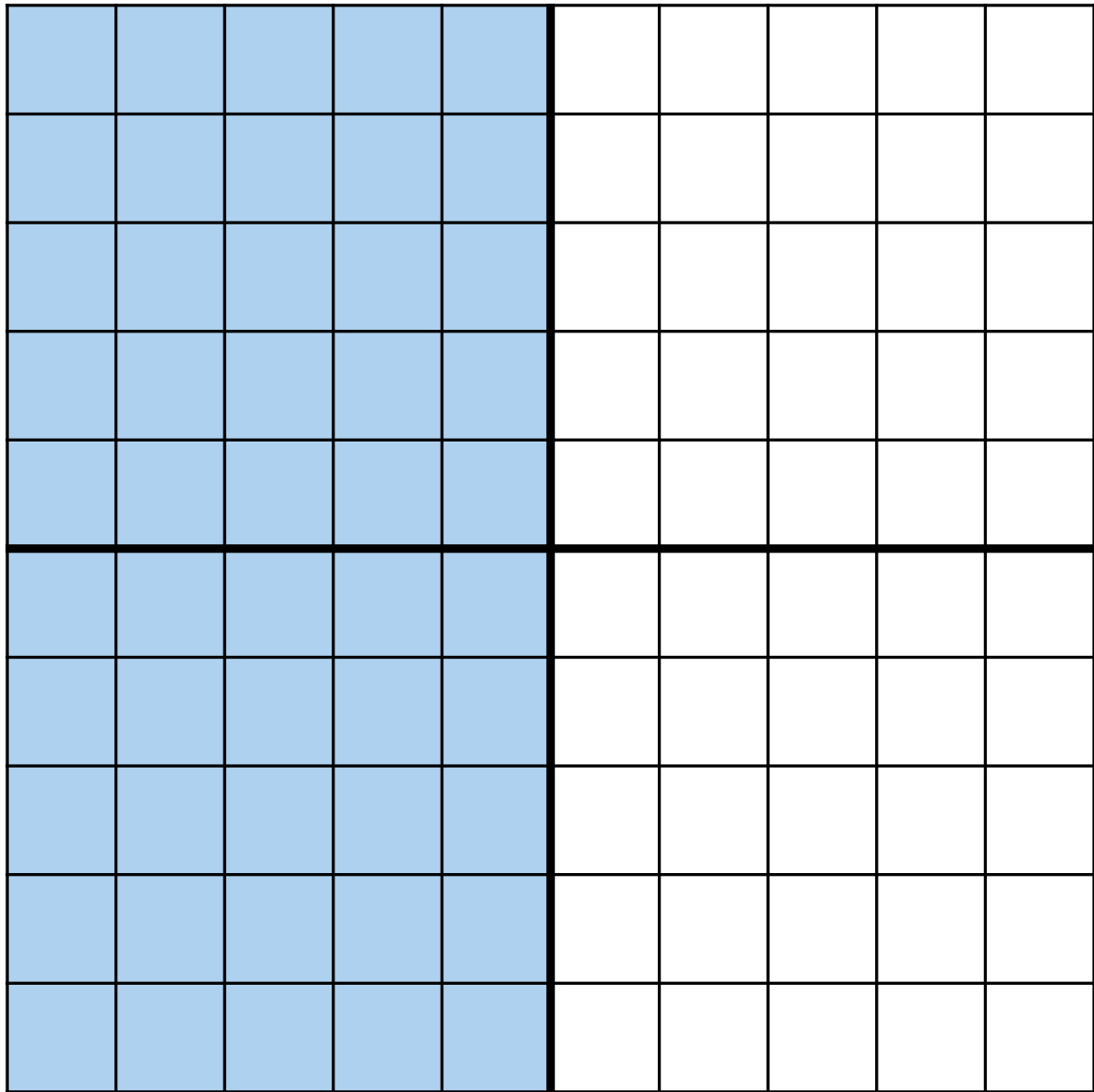
0.280

Same and Different



0.49

Same and Different



$$\frac{5}{10}$$

Same and Different



0.49

49 hundreds

Same and Different

$$\frac{99}{100}$$

0.9

Same and Different



5.23

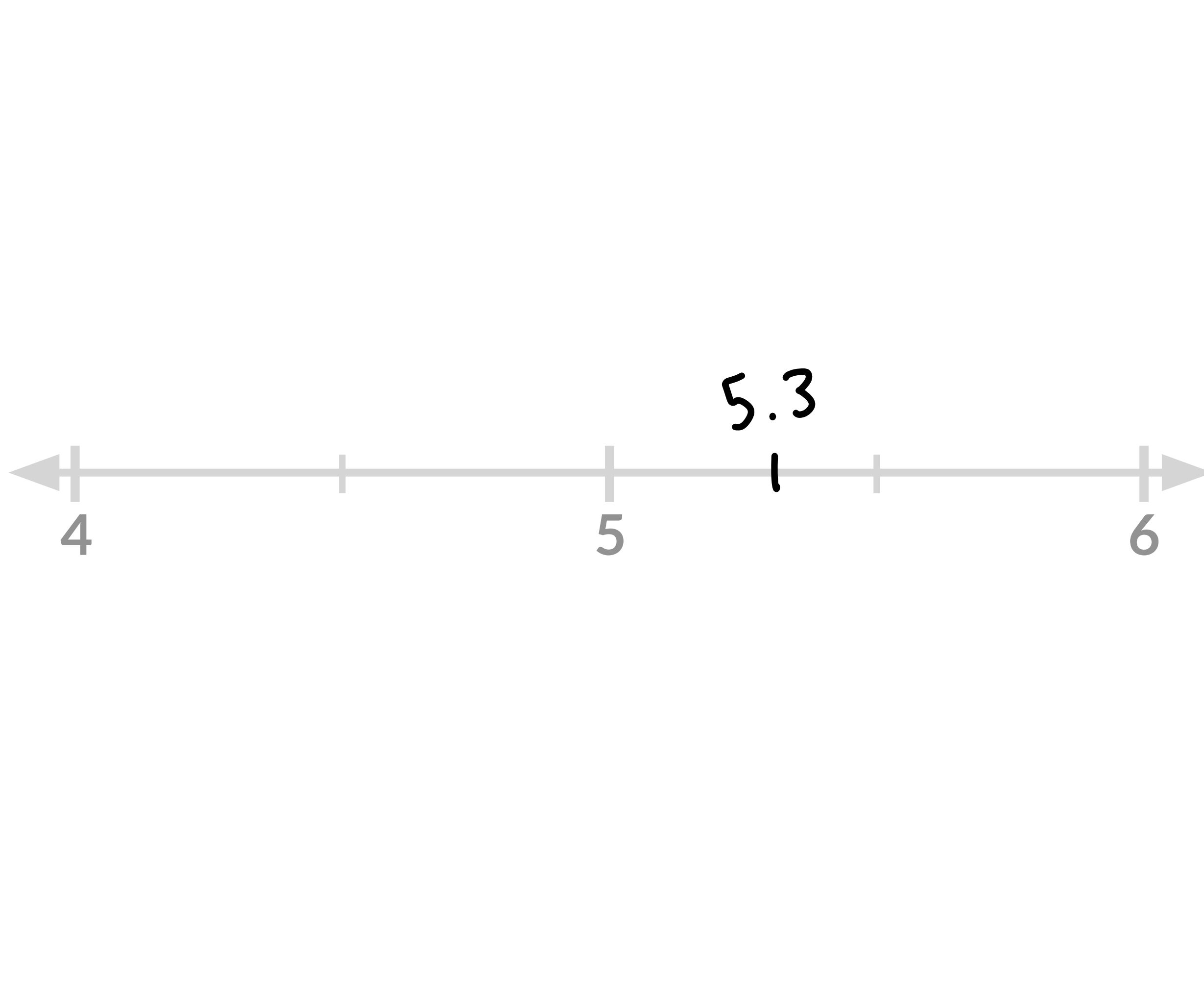
Same and Different



10 people equally
share 4 cookies

$$\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$$

Same and Different



$$\frac{53}{10}$$

Same and Different

0.6

$$\frac{6}{100}$$

True or False?

$$(6 \times 0.1) + (5 \times 0.01) = 0.6 + 0.5$$

$$2 + 0.03 + 0.4 = 2.43$$

$$5.47 = 5 + \underline{\hspace{1cm}} + 0.4$$

True or False?

$$18 \times 0.01 = (10 \times 0.1) + (8 \times 0.01)$$

$$23 \times 0.1 = 1 + 1 + 0.3$$

$$46 \times 0.01 = 0.3 + \underline{\hspace{2cm}}$$

True or False?

$$(3 \times 0.01) + 0.01 = 0.31$$

$$(8 \times 0.01) + (40 \times 0.01) = 0.48$$

$$(\underline{\hspace{2cm}} \times 0.01) + (2 \times 0.01) = 0.72$$

True or False?

$$0.15 + 0.02 = 0.35$$

$$0.5 + 0.18 = 0.68$$

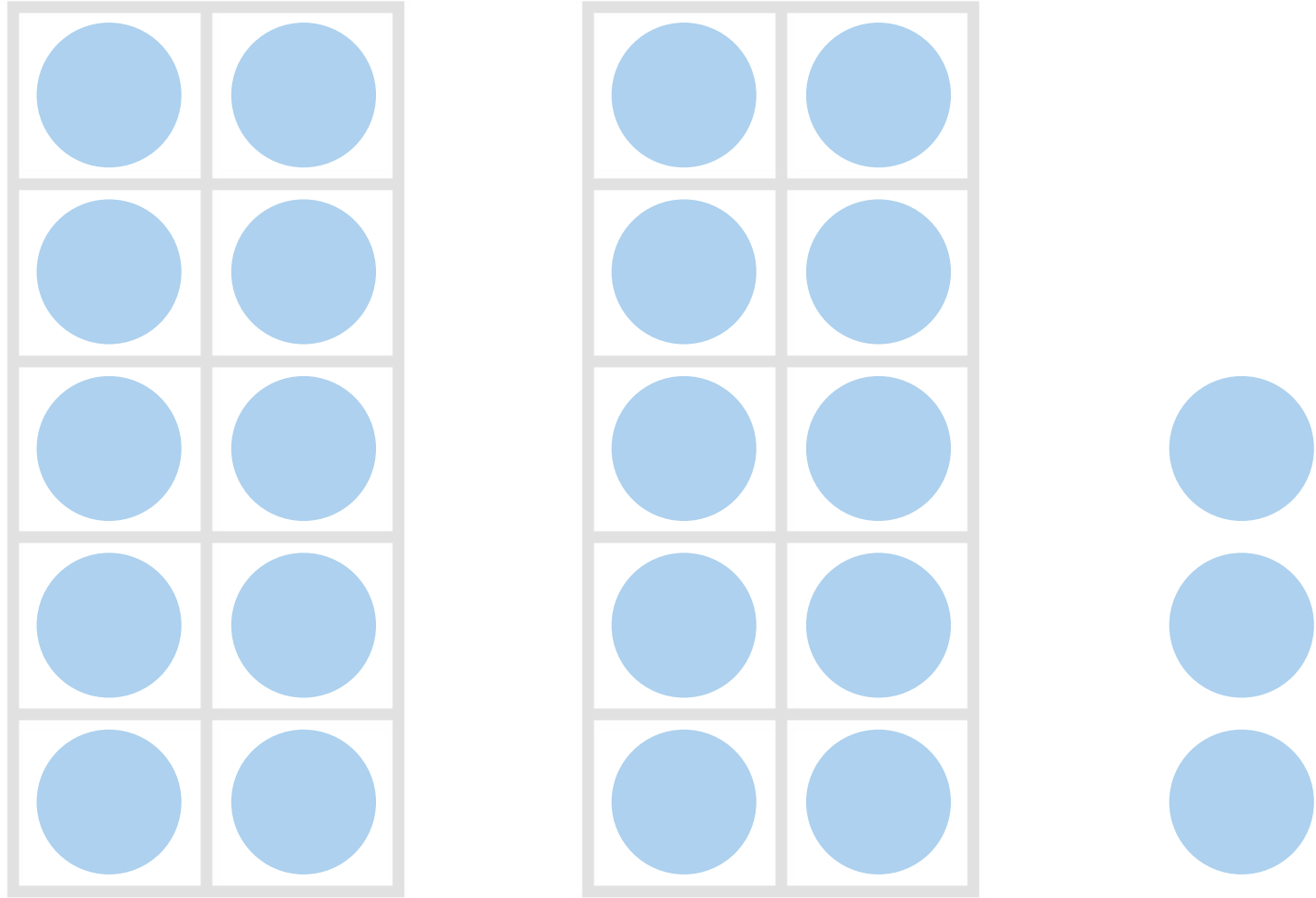
$$\underline{\hspace{2cm}} + 0.3 = 0.43$$



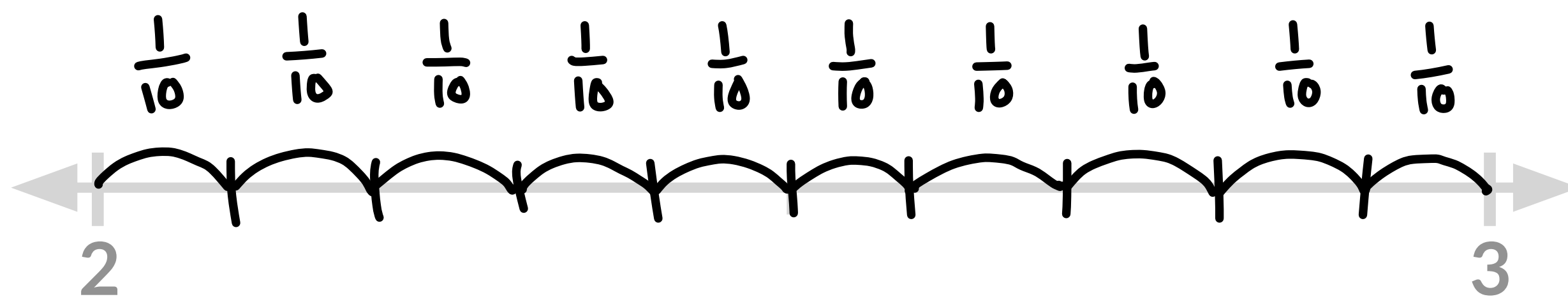
Focus:

Multiplication and Division

Same and Different

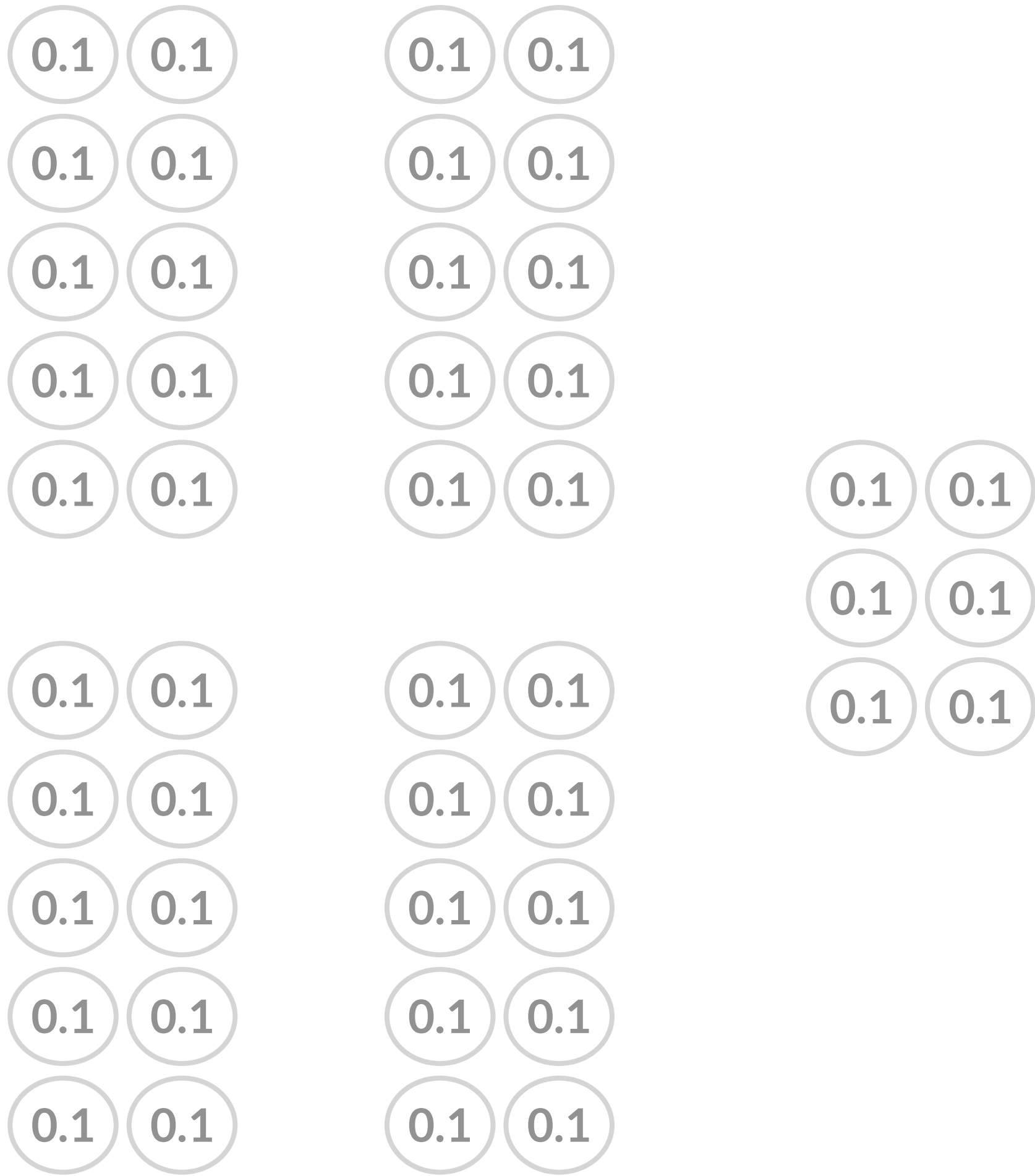


Same and Different



$$10 \times 0.1$$

Same and Different



$$(4 \times 1) + (6 \times \frac{1}{10})$$

$$24 \times 0.75 = 12 \times 1.5$$

$$16 \times 0.8 = (10 \times 0.8) + (6 \times 0.08)$$

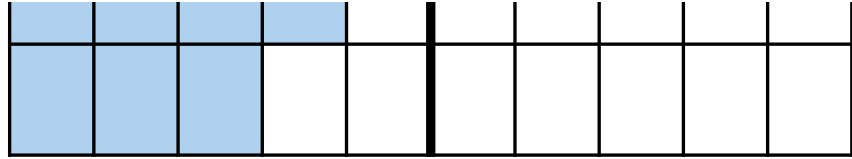
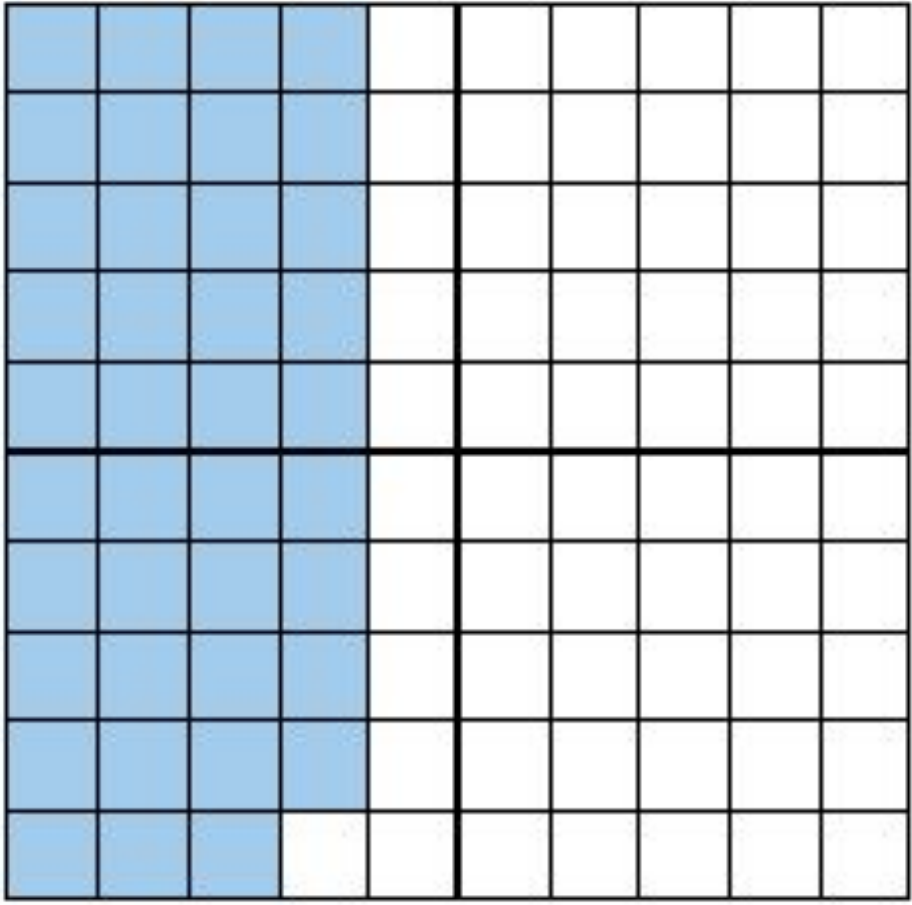
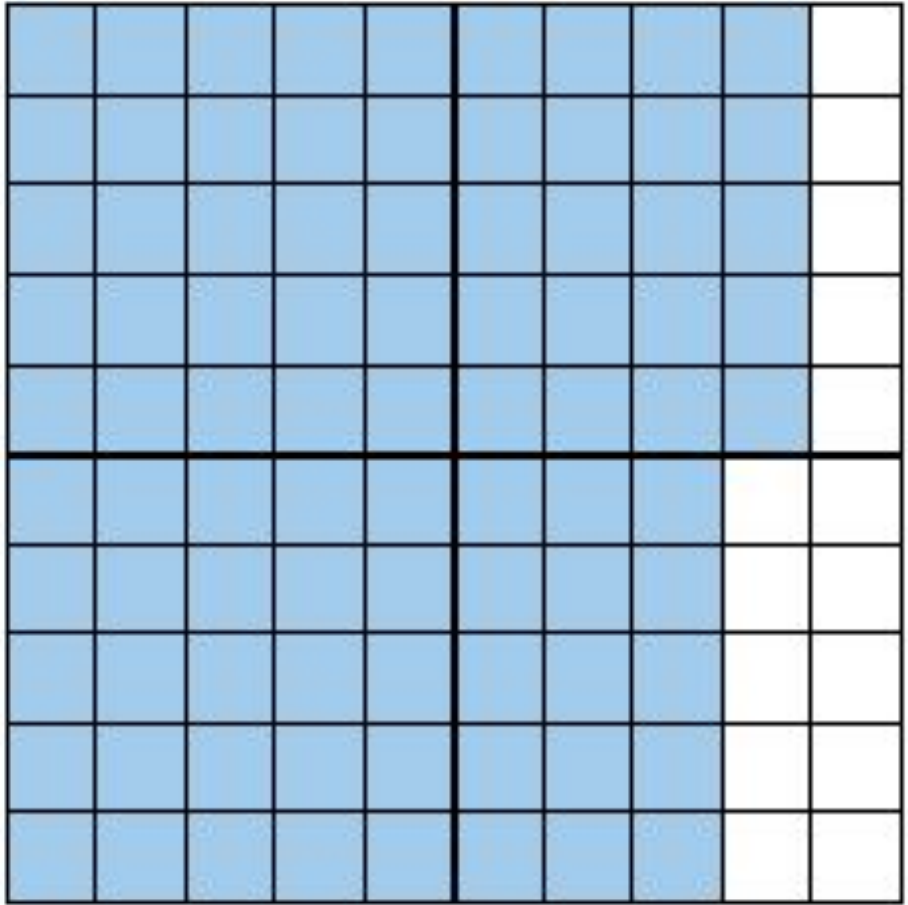
$$19 \times 0.12 = (20 \times 0.12) - \underline{\hspace{1cm}}$$



Focus:

Addition and Subtraction

Same and Different



$$0.85 + 0.40 - 0.01$$

Same and Different



99 + 1 + 44

0.99 + 0.45

True or False?

$$0.98 + 0.16 = 1 + 0.14$$

$$2.88 + 1.35 = 2.88 + 1.2 + 1.23$$

$$1.9 + 1.89 = 2 + \underline{\hspace{1cm}}$$

True or False?

$$1.52 - 0.99 = 1.52 - 1 + 0.1$$

$$2.49 - 1.99 = 2.5 - 2$$

$$1.17 - 0.17 - 0.32 = 1.17 - \underline{\hspace{2cm}}$$