

RECALL

Can you write the ratios represented by the following diagrams:



Can you write sentences which would be represented by the diagram?



Can you simplify any of the ratios?

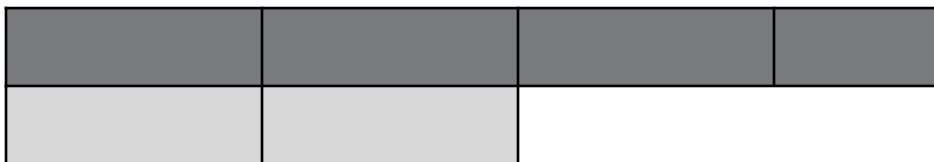
Why?

Why can't you simplify the other ratios?

RECALL - ANSWERS

Can you write the ratios represented by the following diagrams:

5:2



There were 5 trees for every 2 miles of road.

6:2
3:1



There were 6 adult lions for every 2 cubs.

7:2



There were 7 dogs for every 2 cats.

Can you write sentences which would be represented by the diagram?



Can you simplify any of the ratios? **Yes** $6:2 \rightarrow 3:1$

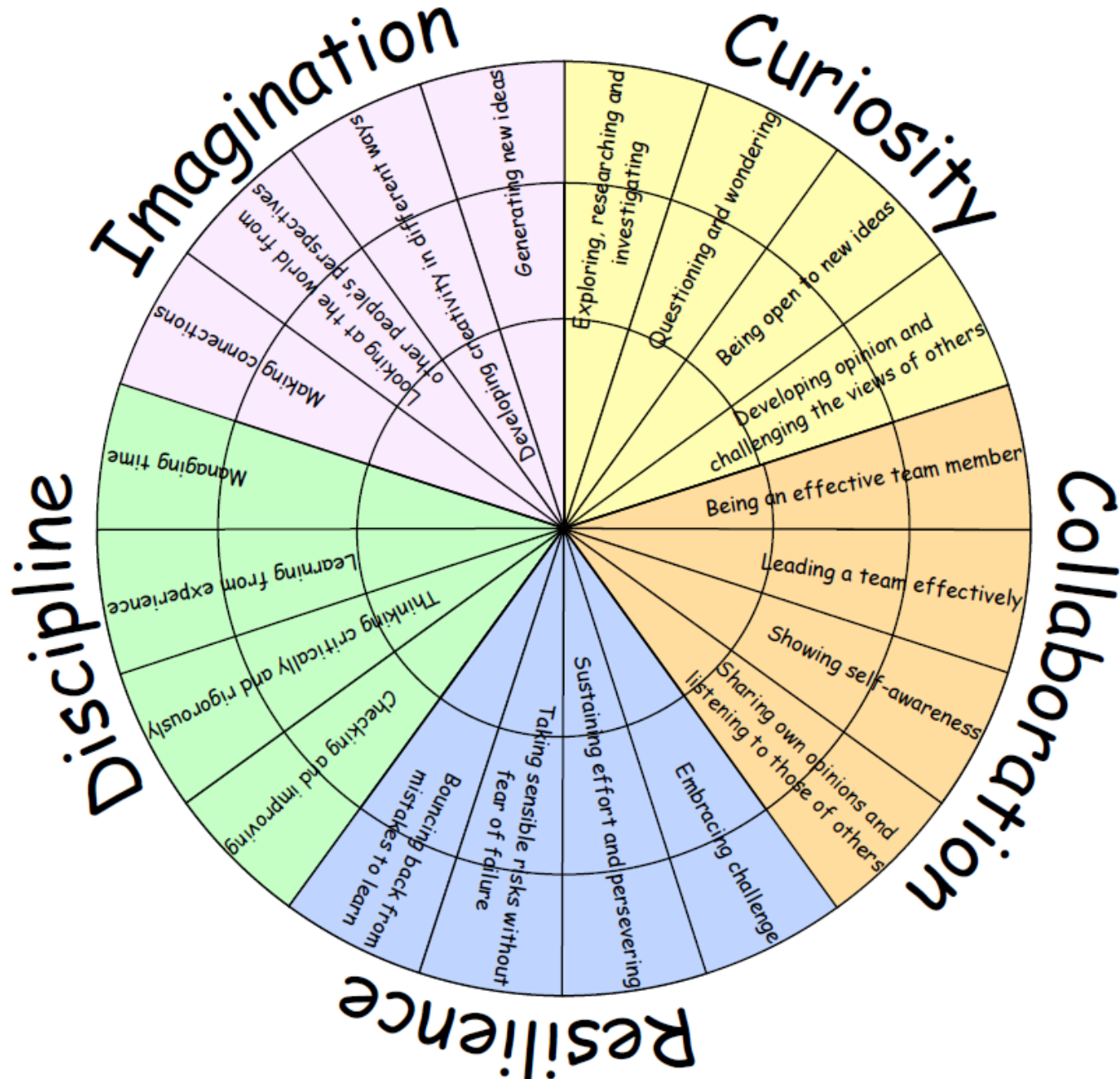
Why? **The numbers have a common factor.**

Why can't you simplify the other ratios? **They don't have common factors.**

I CAN IDENTIFY THAT A
PROBLEM CAN BE WRITTEN AS
A RATIO

Percentages and Ratio (15v)

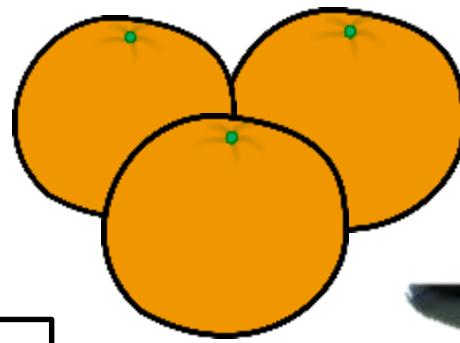
LEARNING HABITS?



GUIDED PRACTICE

A machine pours 250 millilitres of juice every 4 seconds.

How many litres of juice does the machine pour every minute?



If I increased the flow-rate to 350ml for every 4 seconds, how much more juice would I get out in a minute?

1) Copy and complete the diagrams below:



A : **B**
 2 : 5
 4 : ?

C : **D**
 2 : 3
 8 : ?

E : **F**
 3 : 2
 9 : ?

2) Copy and complete the diagrams below:



A : **B**
 ? : 5
 18 : 30

C : **D**
 ? : 7
 12 : 42

E : **F**
 ? : 6
 15 : 18

3) Copy and complete the diagrams below:



A : **B**
 5 : 20
 1 : ?

C : **D**
 10 : 3
 5 : ?

E : **F**
 12 : 7
 6 : ?

A : **B**
 5 : 20
 1 : ?
 8 : ?

C : **D**
 8 : 40
 1 : ?
 3 : ?

E : **F**
 3 : 15
 7 : ?



IP - ANSWERS

1) Copy and complete the diagrams below:



A : **B**
2 : 5
4 : 10
C : **D**
2 : 3
8 : 12
E : **F**
3 : 2
9 : 6

2) Copy and complete the diagrams below:



A : **B**
3 : 5
18 : 30
C : **D**
2 : 7
12 : 42
E : **F**
5 : 6
15 : 18

3) Copy and complete the diagrams below:



A : **B**
5 : 20
1 : 4
C : **D**
10 : 3
5 : 1.5
E : **F**
12 : 7
6 : 3.5

A : **B**
5 : 20
1 : 4
8 : 32

C : **D**
8 : 40
1 : 5
3 : 15

E : **F**
3 : 15
7 : 35



DD1

1) I need 300g of flour for every 3 cakes I make.

I want to make 6 cakes.

How many grams of flour do I need?

2) Chen is cooking some pasta.

The recipe says that he needs 300g of pasta for 4 people.

How many grams does he need for 12 people?



3) A gardener plants tulip bulbs in a flower bed. She plants 3 red bulbs for every 4 white bulbs.

She plants 60 red bulbs.

How many white bulbs does she plant?

4) Amina plants some seeds.

For every 3 seeds that Amina planted, only 2 seeds grew.

12 seeds grew.

How many did she plant?

5) 5 miles : 8 kilometres

The ISS (International Space Station) orbits the Earth at a height of 250 miles.

What is the height of the ISS in kilometres?



DD1 - ANSWERS

1) I need 300g of flour for every 3 cakes

Flour	:	cakes
300g	:	3
600g	:	6

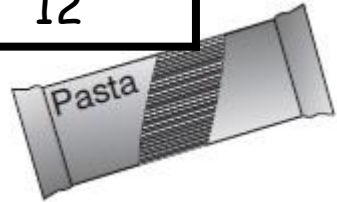
I want 600g of flour. How many grams of flour do I need?

2) Chen is cooking some pasta.

The recipe says that he needs 300g of pasta for 4 people

Pasta	:	People
300g	:	4
900g	:	12

How many grams of pasta does he need for 12 people?



3) A gardener plants tulip bulbs in a flower bed. She plants 3 red bulbs for every 4 white bulbs

Red	:	White
3	:	4
60	:	80

She plants 60 red bulbs. How many white bulbs does she plant?

4) Amina plants some seeds.

For every 3 seeds that she planted, only 2 seeds grew.

Planted	:	Grew
3	:	2
12 seeds	:	18

How many did she plant?

5) 5 miles : 8 kilometres

The ISS orbits the Earth at a height of 500 miles. (1 mile = 1.6 kilometres)

Miles	:	KMs
5	:	8
250	:	400

What is the height of the ISS in kilometres?



DIVE DEEPER 2

6) If Anila needs 320 squirrels to create 4 rows of squirrels, how many will she need to create 5 rows?

7) Mr Teed uses 26 Mentoes for every 2 cola bottles to make the cola explode (make sure that it is diet cola - less sugary mess).

How many Mentoes will he need if he has 7 bottles of cola to explode?

8) The ratio of two numbers is 4 : 5.

One of the numbers is 60.

There are two possible values for the other number.

What are the two possible values?

9) 20% of Megan's number is 64.

What is 50% of Megan's number?

10)



Ingredients
for chocolate
ice-cream

cream	400 ml
milk	500 ml
egg yolks	4
chocolate	120 g
sugar	100 g

Stefan has only 300ml of cream to make the chocolate ice-cream.

How much chocolate should he use?

DD2 ANSWERS

6) If Anila needs 320 squirrels, how many will she need for 400 squirrels?

Squirrels	:	Rows
320	:	4
400	:	5

7) Mr Teed uses 26 Mentoes for every 2 cola bottles to make sure that it is diet cola.

Mentoes	:	Bottles
26	:	2
91	:	7

How many Mentoes does Mr Teed need to make 7 bottles of cola to explode?

8) The ratio of two numbers is 4 : 5.

A	:	B
4	:	5
60	:	75

A	:	B
4	:	5
48	:	60

What are the two possible values?

9) 20% of M is 64. What is 50% of M?

Number	:	Percentage
64	:	20
160	:	50

10)

Chocolate	:	cream
120	:	400
90	:	300

cream	400 ml
milk	500 ml
egg yolks	4
chocolate	120 g
sugar	100 g

Stefan has only 300ml of cream to make the chocolate ice-cream.

How much chocolate should he use?

DIVE DEEPER 3

11) To make elephant's toothpaste, you need: 100ml of hydrogen peroxide; to every 5g of yeast; to every 20ml of washing liquid.

If you have 120ml of washing liquid, how much of the other ingredients do I need?

12) For every mile I run, I have moved 1.6km.

If I run 8.5 miles, how far have I run?

13) Every **100g** of brown bread contains **6g** of fibre.

A loaf of bread weighs 800g and has 20 equal slices.

How much fibre is there in **one** slice?



DD3 ANSWERS

11) To make elephant toothpaste, you need to mix hydrogen peroxide; to every 5g of yeast; to

H ₂ O ₂	:	Yeast	:	Washing Liquid
100ml	:	5g	:	20ml
600ml	:	30g	:	120ml

hydrogen peroxide; to

If you have 120ml of yeast, how much of each ingredient do I need?

ingredients do I

12) For every mile I run, I burn 100 calories.

Miles	:	KMs
1	:	1.6
8.5	:	13.6

If I run 8.5 miles, how far is that in kilometers?

13) Every 100g of brown bread contains 6g of fibre.

A loaf of bread weighs 800g and has 20 equal slices.

How much fibre is there in one slice?

Mass	:	fibre
100g	:	6g
800g	:	48g
Slices	:	fibre
20	:	48g
1	:	2.4g



SELF-ASSESSMENT

- Some will even use unitary ratios effectively with multiple steps
 - Some will begin to use unitary ratios
 - Most will be able to multiply or divide ratios to give corresponding values
 - All will multiply ratios to find answers
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