RECALL

Can you write the ratios represented by the following diagrams:

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

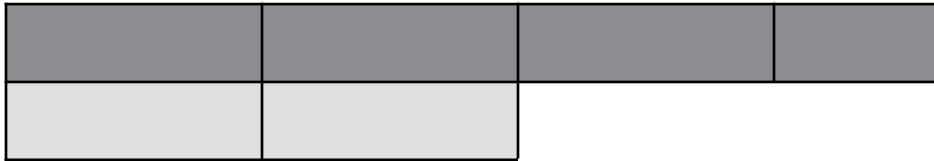Can you simplify any of the ratios?
Why?
Why can't you simplify the other ratios?
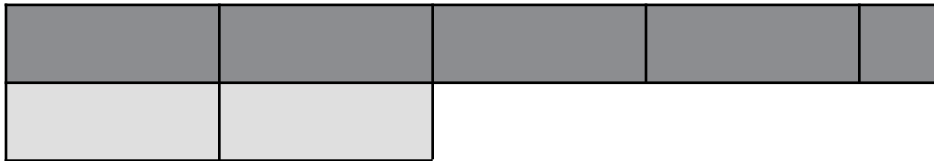
RECALL - ANSWERS

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 ➜ 3:1
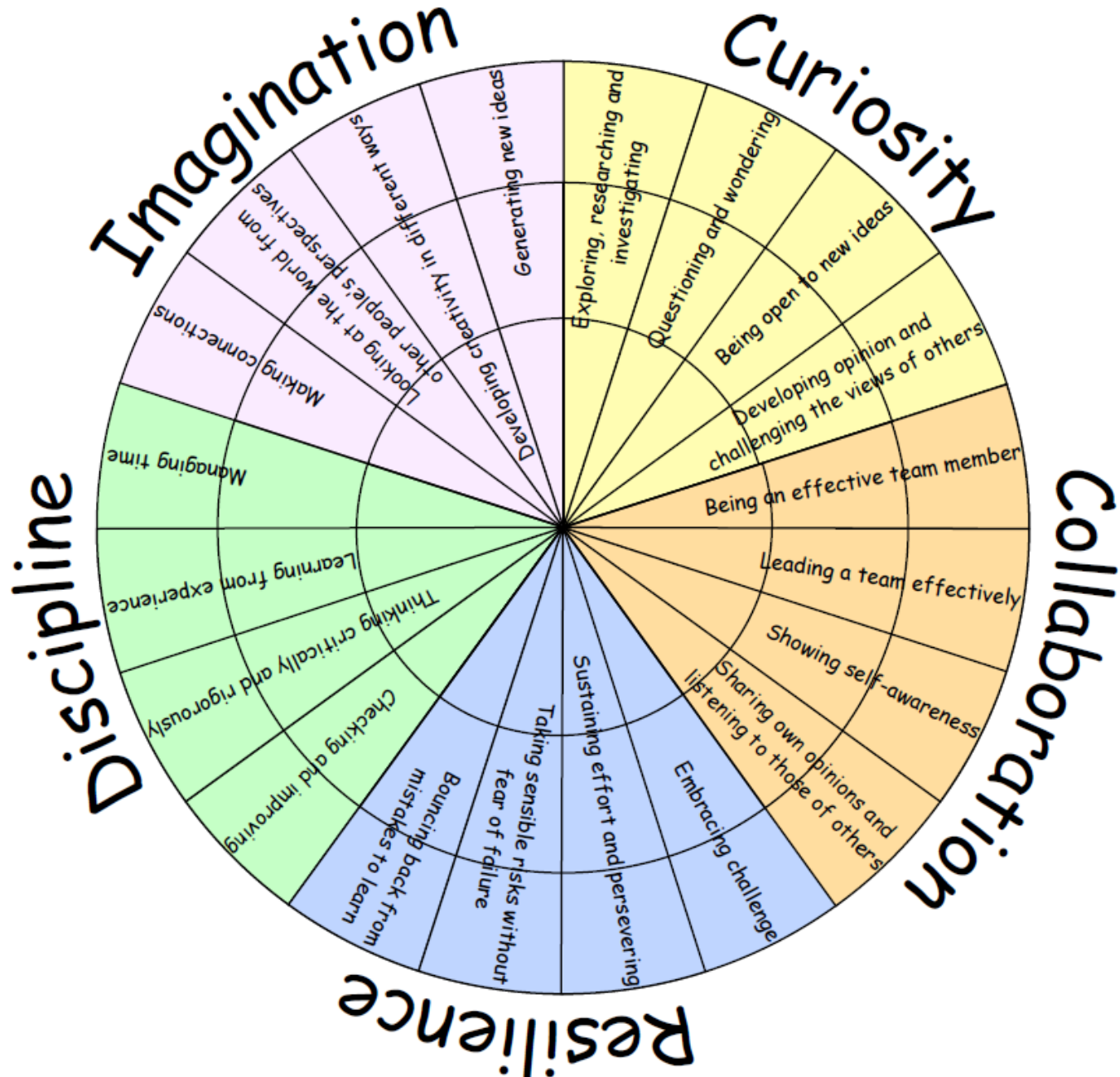Why? The numbers have a common factor.
Why can't you simplify the other ratios? They don't have common factors.

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

Percentages and Ratio (15v)

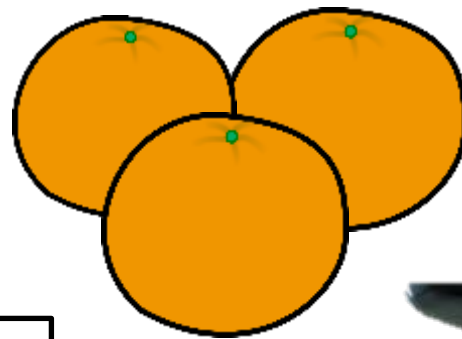# LEARNING HABITS?

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?

IP

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

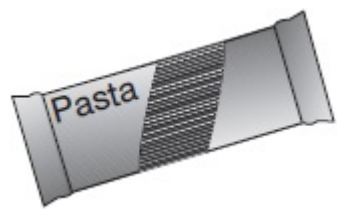1) I need 300g of flour for every 3 cakes I make.

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?

Pasta

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

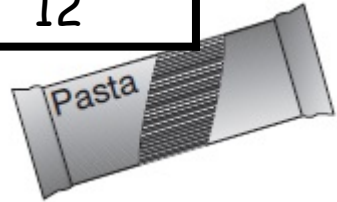1) I need 300g of flour for every 3
cakes

Flour	:	cakes
300g	:	3
600g	:	6

I want

How many grams of flour do I need?

2) Chen is cooking some pasta.

The recipe says that he needs 300g of
pasta f

Pasta	:	People
300g	:	4
900g	:	12

How ma   or 12
people?

Pasta

3) A gardener plants tulip bulbs in a
flower   bs for
every 4

Red	:	White
3	:	4
60	:	80

She pla
How many   plant?

4) Amina plants some seeds.

For ever   anted,
only 2 s

Planted	:	Grew
3	:	2
18	:	12

12 seeds

How many did she plant?

5) 5 miles : 8 kilometres

The ISS   ation)
orbits tl   50
miles.

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 squir[rels]
squirrels, how many will she

Squirrels	:	Rows
320	:	4
400	:	5

7) Mr Teed uses 26 Mentoes for every 2 cola bottles to m[ake] [make] [make] sure that it is diet cola –

How many M[entoes] has 7 bottles of cola to explode?

Mentoes	:	Bottles
26	:	2
91	:	7

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

What is 50%

Number	:	Percentage
64	:	20
160	:	50

10)

Chocolate	:	cream
120	:	400
90	:	300

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?

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 ~~...~~ gen peroxide; to every 5g of yeast; to ~~...~~

If you have 120ml of ~~...~~ ngredients do I need?

H$_2$O$_2$	:	Yeast	:	Washing Liquid
100ml	:	5g	:	20ml
600ml	:	30g	:	120ml

12) For every mile I run, I ~~...~~

If I run 8.5 miles, how far ~~...~~

Miles	:	KMs
1	:	1.6
8.5	:	13.6

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