

Year 6 Numeracy

wb 27/4/2020

Remember to use your revision guide to support you and these slides

The sheets I refer to throughout this are on the word document labelled Numeracy sheets 27.4.20. You can either print them or read them off the screen. All answers are at the end of this Powerpoint

27/4/20- Fluent in Five

1. $60 \times 3 =$

2. $17,456 - 4,737 =$

3. $9 + 7 + 8 =$

4. $7 \times 0 =$

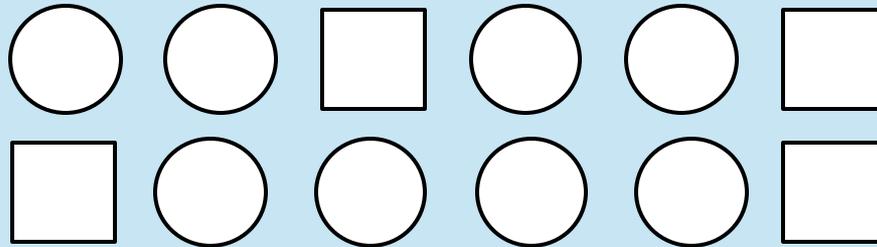
5. $76,328 + \quad = 560,641$

27/4/20

LO: I can use the language of
ratio(6c12)

Using Ratio Language

Complete the sentences to describe the relationship between the quantities of each shape.



For every 14 circles, I would have 7 squares.

For every square, there are 7 circles.

For every 18 shapes, I would have 6 squares and 12 circles.

For every 2 squares, there are 12 circles.

For every 5 squares, I would have 10 circles.

Using Ratio Language

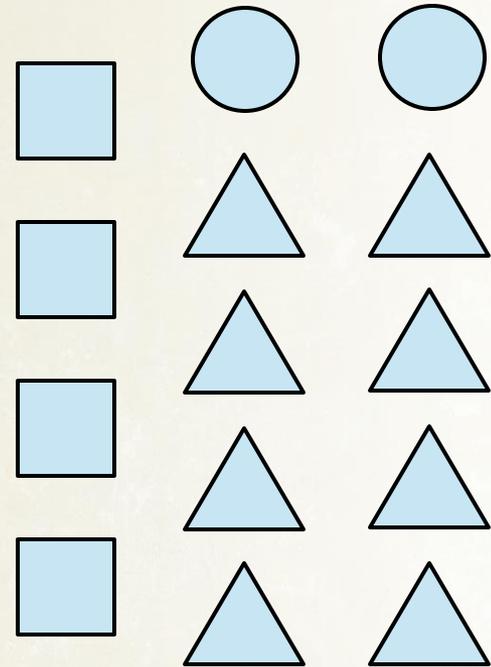
Explain if you agree, partially agree or disagree with each of the children's statements about the shapes below. Explain why.



Gethin

For every 21 shapes, there would be 12 triangles, 8 circles and 10 squares.

Partially agree. There would be 12 triangles, however, there would be 3 circles and 6 squares.



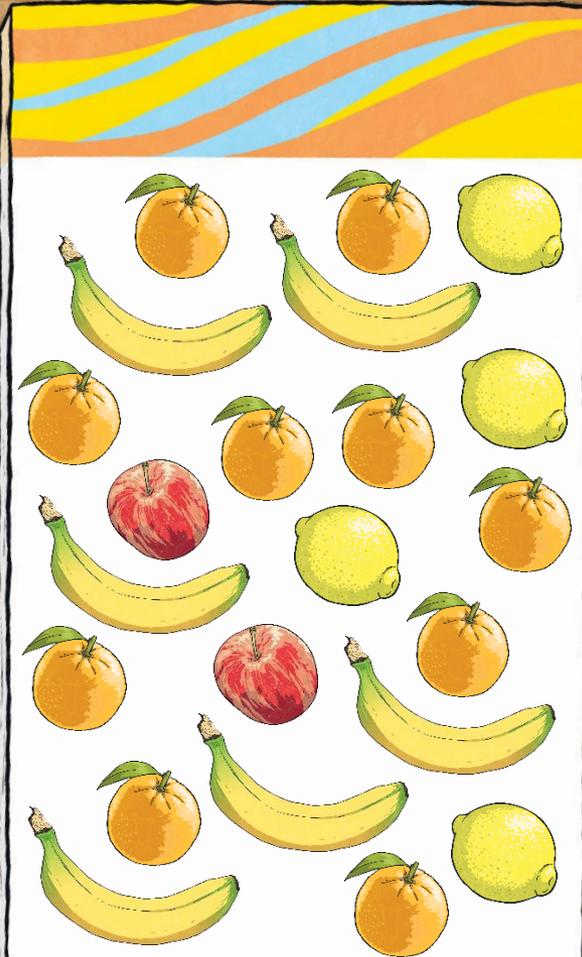
Using Ratio Language

Complete the statements to describe the relationship between the numbers of each fruit in this collection of different fruits:

For every 1 apple there are 8 lemons
and 3 bananas and 4 oranges
numbers of fruit.

For every 12 lemons there are
6 apples, 4 bananas and 8 oranges.

For every 88 pieces of fruit there are
16 lemons, 8 apples, 24 bananas and
40 oranges.



Try this sheet- : (can find them on word document)

1)



- a) For every 1 circle, there are _____ triangles.
- b) For every 2 circles, there are _____ triangles.
- c) For every 3 circles, there would be _____ triangles.
- d) For every 12 triangles, there would be _____ circles.

2)



- a) For every 3 pentagons, there are _____ triangles and _____ circles.
- b) For every 10 circles, I would have _____ pentagons.
- c) For every 6 triangles, I would have _____ pentagons.
- d) For every 40 shapes, I would have _____ triangles, _____ pentagons and _____ circles.

3)



- a) For every 1 banana, there are _____ apples.
- b) For every 3 bananas, there are _____ apples.
- c) For every 21 apples, I would have _____ bananas.
- b) For every 40 pieces of fruit, I would have _____ bananas and _____ apples.

• <https://whiterosemaths.com/homelearning/year-6/>

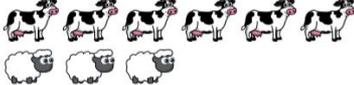
• **Week 1**

• **Lesson 1 - Using ratio language**

• Then complete document

Using ratio language

1 Complete the sentences.



For every 3 sheep there are cows.

For every 2 cows there is sheep.

2 Circle groups to match the statements.

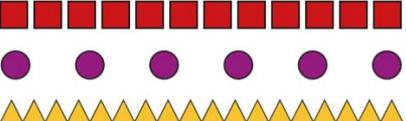
a) For every 1 football there are 3 tennis balls.



b) For every 2 cars there are 5 bicycles.



3 Here are some shapes.



Complete the sentences.

For every 6 squares there are circles.

For every 6 squares there are triangles.

For every 1 square there is a circle.

4 a) Make a tower of cubes that has 3 green cubes for every 1 red cube.
b) Compare your tower to a partner's tower.
What is the same and what is different about your tower?

5 For every 2 pencils there are 3 rulers.
Draw a picture to show this.



28/4/20- Fluent in Five

1. $6.94 \times 10 = 69.4$

2. $374 \times 7 =$

3. $765 + 100 =$

4. $4 + 9 + 1 =$

5. $432 \div 7 =$

28/4/20

LO: I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts (6C12)

- <https://whiterosemaths.com/homelearning/year-6/>

- **Week 1**

- **Lesson 2 - Ratio and fractions**

Then complete this sheet- - find in word document

Ratio and fractions

- 1 Here are some counters.

Complete the sentences to describe the counters.

a) There are counters altogether.

b) There are white counters.

c) There are black counters.

d) 3 out of the 8 counters are _____

e) out of the 8 counters are white.



- 2 Here are some animals.



Complete the sentences.

For every cows there are sheep.

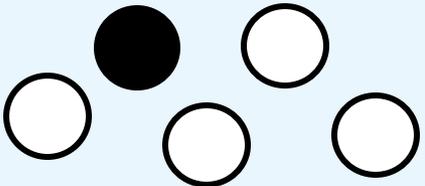
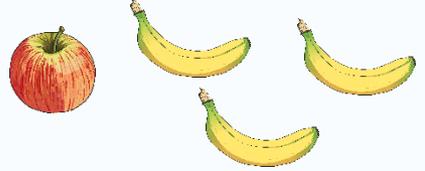
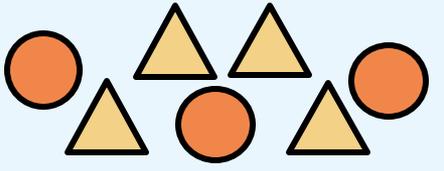
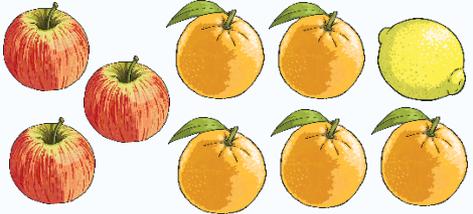
The ratio of cows to sheep is to

of the animals are cows.

of the animals are sheep.

Ratio and Fractions

Complete this table comparing ratios and fractions.

	Ratio	Fraction
	The ratio of black counters to white counters: 1:4	Black = $\frac{1}{5}$ White = $\frac{4}{5}$
	The ratio of apples to bananas: 1:3	Apple = $\frac{1}{4}$ Bananas = $\frac{3}{4}$
	For every <u>3</u> circles, there are <u>4</u> triangles.	Circles = $\frac{3}{7}$ Triangles = $\frac{4}{7}$
	The ratio of lemons to apples to oranges: 1:3:5	Lemons = $\frac{1}{9}$ Apple = $\frac{3}{9}$ Oranges = $\frac{5}{9}$

Ratio and Fractions

These statements describe the fruit using ratio and fraction language.

Which statements are true and which are false?

Correct the statements which are false.



there are 4

pples.

the fruit are

es to



a) Lemons are $\frac{2}{5}$ of the fruit.

This is true.

b) For every 2 lemons, there are 5 apples

This is false. For every two lemons there are three apples.

c) The ratio of lemons to apples: 2:5

This is false. The ratio of lemons to apples is 2:3.

Ratio and Fractions

Look at the ratio and fraction statements for this bag of marbles. Find the number of each different colour marble in the bag.

$\frac{1}{3}$ of the marbles are blue.

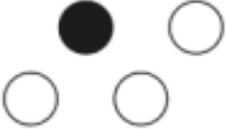
The ratio of red marbles to white marbles: 1:3

60 marbles coloured blue, red and white.

Blue marbles	20
Red marbles	10
White marbles	30

Then complete this sheet- - find in word document

Complete this table comparing ratios and fractions.

Objects	Ratio	Fraction
	The ratio of black counters to white counters: 1:3	Black = $\frac{1}{4}$ White =
	The ratio of apples to bananas: 1:2	Apple = Bananas =
	For every 2 circles, there are ___ triangles.	Circles = Triangles =
	The ratio of apples to lemons to oranges: 1:3:4	Apple = Lemons = Oranges =
	For every 2 squares, there are ___ circles and ___ triangles.	Squares = Circles = Triangles =

29/4/20- Fluent in Five

1. $984 + 70 =$

2. $64,326 - 14,168 =$

3. $654.43 \times 10 =$

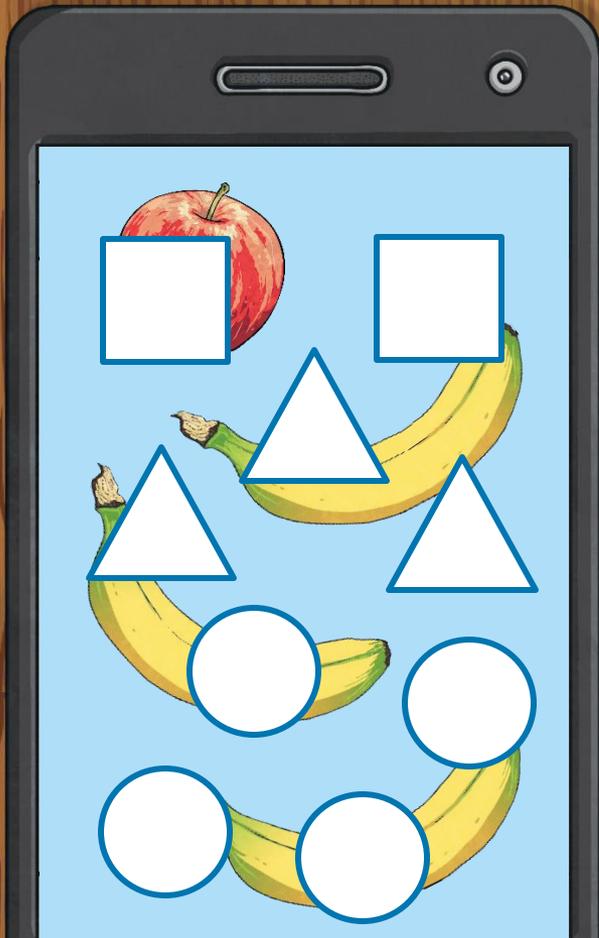
4. $\quad = 743 \div 7$

5. $993 + 120 =$

29/4/20

LO: I can use the ratio symbol (6C12)

Introducing the Ratio Symbol



For every 2 ³apple, there are 3 ₄bananas.

The ratio of apples to bananas: 2 ³1 ₃ 3

For every 3 ³bananas, there is 1 ₂apple.

The ratio of bananas to apples is 3 ⁴3 ₄ 1

2 ³3 ₄

Introducing the Ratio Symbol

Which of these statements correctly describes this picture? Explain which statements are incorrect and why.



a) There are 5 cats for every 2 dogs.

This is incorrect. There are two cats for every five dogs.

b) The ratio of dogs to cats: 2:5

This is incorrect. The ratio of dogs to cats: 5:2

c) $\frac{2}{5}$ of the animals are cats.

This is incorrect. $\frac{2}{5}$ of the animals are cats

d) The ratio of cats to dogs: 2:5

This is correct.

Complete this sheet- find in word document

1) Complete each statement. 

a) For every ____ apples, there are ____ oranges.

b) The ratio of apples to oranges: ____:____

c) For every ____ oranges, there are ____ apples.

d) The ratio of oranges to apples is ____:____

2) Tick the statements that are correct. Correct the statements that are wrong.



a) For every 4 black counters, there are 3 white counters.

b) The ratio of black counters to white counters: 3:4

c) The fraction of counters that is white is $\frac{3}{4}$.

3) Complete each statement.



a) For every ____ squares there are ____ triangles and ____ circles.

b) The ratio of squares to triangles: ____:____

c) The ratio of triangles to squares: ____:____

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Week 1

Lesson 3 - Introducing the ratio symbol

Complete these- find in word document

White Rose Maths

Introducing the ratio symbol

1 The ratios show shaded parts to non-shaded parts.
Match the ratios, statements and bar models.

$2:3$	five to two	
$5:2$	three to two	
$2:5$	two to three	
$3:2$	two to five	

2



Mo: The ratio of purple to yellow is $5:4$

Alex: It is $4:5$

Who is correct? _____
Explain your answer.

30/4/20- Fluent in Five

1. $\frac{2}{3}$ of 24 =

2. $85,542 + 432,594 =$

3. $\quad \times 10 = 915.43$

4. $67 \times 17 =$

5. $678 - 90 =$

30/4/20

LO: I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiplies (6C13)

<https://whiterosemaths.com/homelearning/year-6/>

Week 1

Lesson 4 - Calculating ratio

Complete this sheet- find in word document

White Rose Maths

Calculating ratio

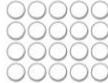
1 Eva is baking cakes and cookies.
For every 1 cake, she will bake 2 cookies.



a) If Eva bakes 3 cakes, how many cookies will she bake?

b) If Eva bakes 10 cookies, how many cakes will she bake?

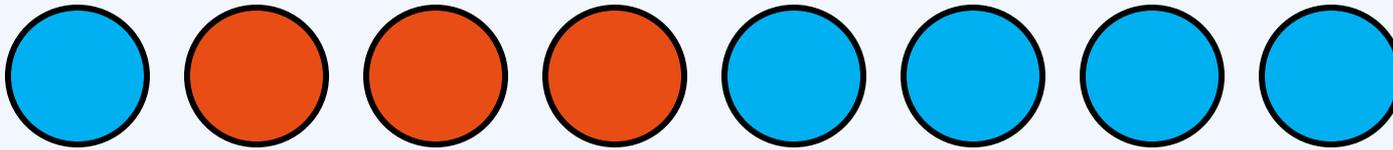
2 The ratio of red to yellow counters is 2:3
There are 20 counters in total.
How many counters of each colour are there?
You can colour the counters to help you.



yellow red

Calculating Ratio

Complete the ratio statements to help solve the word problems about these counters.



For every orange counters there are blue counters.

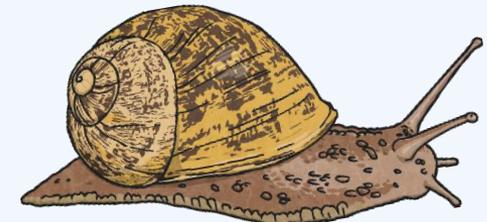
The ratio of orange counters to blue counters is: :

a) If there are 20 blue counters, how many orange counters will there be?

12 orange counters

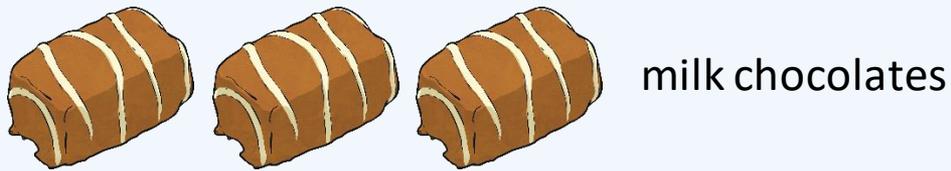
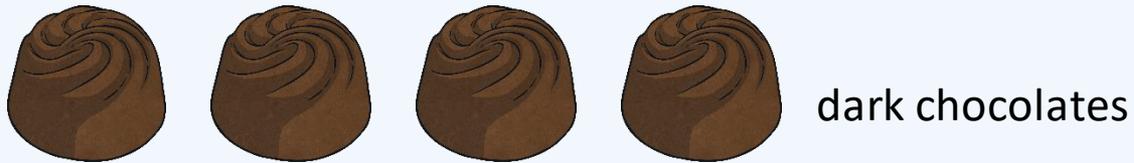
b) If there are 15 orange counters, how many blue counters will there be?

25 blue counters



Calculating Ratio

Freya shares a box of chocolates with her friends and family. For every four dark chocolates, they eat three milk chocolates.



If they eat 9 milk chocolates, how many dark chocolates do they eat?

12 dark chocolates

If they ate 28 chocolates, how many of each type of chocolate would they have eaten?

16 dark chocolates and 12 milk chocolates

Calculating Ratio

Marbles are placed in a bag so that there are 4 pink marbles to every 5 green marbles.



I think if there were 45 marbles in the bag then I would have 20 red marbles and 25 green marbles.

Jonny

Correct.



I think that if I have 12 red marbles I will also have 16 green marbles.

Raya

Incorrect, there would be 15 green marbles.

Do you agree or disagree with the children's statements? Correct any statements which are incorrect.

Complete this sheet- find in word document

1) Complete the ratio statement about these shapes.



For every ____ squares there are ____ circles.

The ratio of squares to circles is ____:____.

Use this to help you answer the following questions.

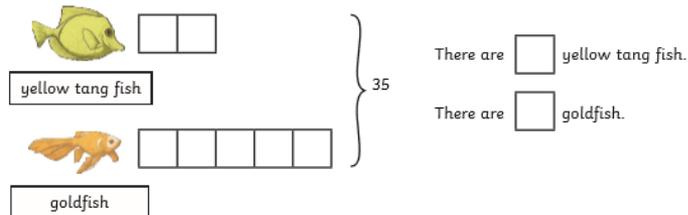
a) If there are 18 circles, how many squares will there be? _____

b) If there are 10 squares, how many circles will there be? _____

2) In her fish tank, Alice has two yellow tang fish to every five goldfish.

There are 35 fish in her fish tank. How many of each type are there?

Use the bar model to help you solve the problem.



3) Jamil eats a large box of chocolates with his friends and family. For every three dark chocolates, they eat two milk chocolates.



a) If they eat nine dark chocolates, how many milk chocolates do they eat?

b) If they ate 45 chocolates, how many of each type of chocolate would they have eaten?

1/5/20

Use today to cover any work you have not managed to get to this week.

If there is an area you have found tricky spend some more time looking at the area.

Maths website to use in the afternoons

- <https://mathsnacks.com/ratio-rumble.html>
- <https://www.arcademics.com/games/ratio-blaster>
- <https://www.bbc.co.uk/games/embed/guardians-mathematica>
- <https://ttrockstars.com/>
- <https://www.timestables.co.uk/times-tables-grid/>

Answers

27/4/20- Fluent in Five Answers

1. $60 \times 3 = 180$ (M)
2. $17,456 - 4,737 = 12,719$ (W)
3. $9 + 7 + 8 = 24$ (M)
4. $7 \times 0 = 0$ (M)
5. $76,328 + 484,313 = 560,641$ (W)

Monday- Try these answers

- 1)
 - a) For every 1 circle, there are **3** triangles.
 - b) For every 2 circles, there are **6** triangles.
 - c) For every 3 circles, there would be **9** triangles.
 - d) For every 12 triangles, there would be **4** circles.

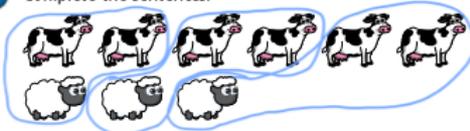
- 2)
 - a) For every 3 pentagons, there are **2** triangles and **5** circles.
 - b) For every 10 circles, I would have **6** pentagons.
 - c) For every 6 triangles, I would have **9** pentagons.
 - d) For every 40 shapes, I would have **8** triangles, **12** pentagons and **20** circles.

- 3)
 - a) For every 1 banana, there are **3** apples.
 - b) For every 3 bananas, there are **9** apples.
 - c) For every 21 apples, I would have **7** bananas.
 - d) For every 40 pieces of fruit I would have **10** bananas and **30** apples.

Monday answers

Using ratio language

- 1 Complete the sentences.

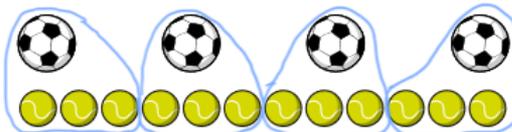


For every 3 sheep there are cows.

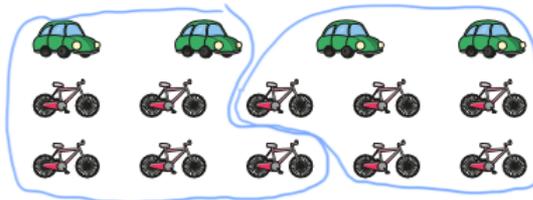
For every 2 cows there is sheep.

- 2 Circle groups to match the statements.

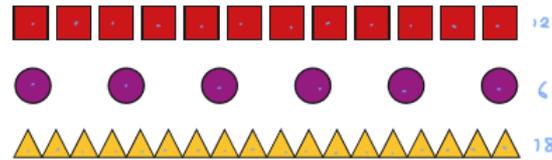
a) For every 1 football there are 3 tennis balls.



b) For every 2 cars there are 5 bicycles.



- 3 Here are some shapes.



Complete the sentences.

For every 6 squares there are circles.

For every 6 squares there are triangles.

For every 1 square there is a circle.

- 4 a) Make a tower of cubes that has 3 green cubes for every 1 red cube.

b) Compare your tower to a partner's tower.

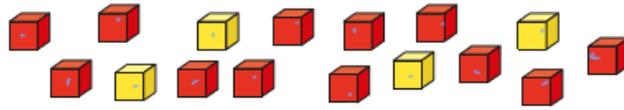
What is the same and what is different about your tower?

- 5 For every 2 pencils there are 3 rulers.

Draw a picture to show this.

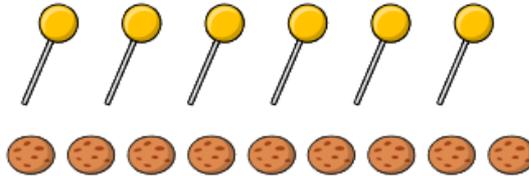


- 6 Write three different 'For every ...' sentences for the cubes.



For every 12 red cubes there are 4 yellow cubes.
For every 6 red cubes there are 2 yellow cubes.
For every 3 red cubes there are 1 yellow cubes.

- 7 Teddy has 6 lollipops and 9 cookies.



Annie

For every 3 lollipops
there are 2 cookies.

I don't agree.



Teddy

- a) What mistake has Annie made?
b) Write a sentence to match the picture.

For every 2 lollipops there are 3 cookies.



28/4/20- Fluent in Five Answers

1. $6.94 \times 10 = 69.4$ (M)
2. $374 \times 7 = 2,618$ (W)
3. $765 + 700 = 1,465$ (M)
4. $4 + 9 + 1 = 14$ (M)
5. $432 \div 7 = 51.5$ (W)

Tuesday answers

Ratio and fractions

White
Rose
Maths

- 1 Here are some counters.

Complete the sentences to describe the counters.

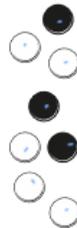
a) There are $\boxed{8}$ counters altogether.

b) There are $\boxed{5}$ white counters.

c) There are $\boxed{3}$ black counters.

d) 3 out of the 8 counters are black.

e) $\boxed{5}$ out of the 8 counters are white.



- 2 Here are some animals.



Complete the sentences.

For every $\boxed{3}$ cows there are $\boxed{2}$ sheep.

The ratio of cows to sheep is $\boxed{3}$ to $\boxed{2}$.

$\boxed{\frac{3}{5}}$ of the animals are cows.

$\boxed{\frac{2}{5}}$ of the animals are sheep.

- 3 Part of the bar has been shaded.



a) What fraction of the bar is shaded?

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

b) What fraction of the bar is not shaded?

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

c) Write the ratio of shaded to non-shaded parts.

$\boxed{5}$ to $\boxed{1}$

d) Write the ratio of non-shaded to shaded parts.

$\boxed{1}$ to $\boxed{5}$

- 4 Here are some shapes.



a) What fraction of the shapes are circles?

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

b) What fraction of the shapes are stars?

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

c) What is the ratio of stars to circles?

$\boxed{6}$ to $\boxed{4}$

d) What is the ratio of circles to stars?

$\boxed{4}$ to $\boxed{6}$

Can you find a different answer to each of these questions?

Compare with a partner.



- 5 The bar model shows the ratio 1 to 3 to 4



Talk to a partner about how it shows this.

- a) What fraction of the bar is striped?
- b) What fraction of the bar is fully shaded?
- c) What fraction of the bar is blank?

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

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

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

6



Jack

The fraction of brown cubes is $\frac{2}{3}$ because the ratio of brown to yellow is 2 to 3

Rosie

The fraction of brown cubes is $\frac{2}{5}$

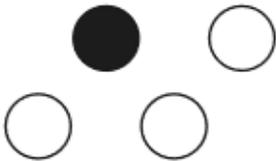
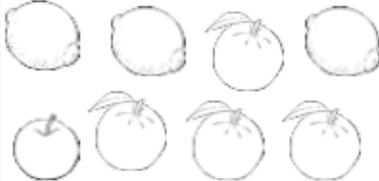


Who is correct? Rosie

Explain your answer.

2 out of 5 cubes are brown

1)

Objects	Ratio	Fraction
	The ratio of black counters to white counters: 1:3	Black = $\frac{1}{4}$ White = $\frac{3}{4}$
	The ratio of apples to bananas: 1:2	Apple = $\frac{1}{3}$ Bananas = $\frac{2}{3}$
	For every 2 circles, there are 5 triangles.	Circles = $\frac{2}{7}$ Triangles = $\frac{5}{7}$
	The ratio of apples to lemons to oranges: 1:3:4	Apple = $\frac{1}{8}$ Lemons = $\frac{3}{8}$ Oranges = $\frac{4}{8}$ or $\frac{1}{2}$
	For every 2 squares, there are 3 circles and 5 triangles.	Squares = $\frac{2}{10}$ or $\frac{1}{5}$ Circles = $\frac{3}{10}$ Triangles = $\frac{5}{10}$ or $\frac{1}{2}$

29/4/20- Fluent in Five Answers

1. $984 + 70 = 1,054$ (M)

2. $64,326 - 14,168 = 50,158$ (W)

3. $654.43 \times 10 = 6544.3$ (M)

4. $106.14 = 743 \div 7$ (W)

5. $993 + 120 = 1,113$ (M)

Wednesday Answers

- 1)
 - a) For every 3 apples, there are 2 oranges.
 - b) The ratio of apples to oranges: 3:2
 - c) For every 2 oranges, there are 3 apples.
 - d) The ratio of oranges to apples: 2:3

- 2)
 - a) This is correct.
 - b) This is incorrect. The ratio of black counters to white counters: 4:3
 - c) This is incorrect. The fraction of counters that is white is $\frac{3}{7}$.

- 3)
 - a) For every 3 squares there are 4 triangles and 5 circles.
 - b) The ratio of squares to triangles: 3:4
 - c) The ratio of triangles to squares: 4:3
 - d) The ratio of triangles to circles: 4:5
 - e) The ratio of circles to triangles: 5:4
 - f) The ratio of squares to triangles to circles: 3:4:5

- 4) *Answers will vary. Examples answers might include:*
The ratio of apples to bananas: 1:2
The ratio of bananas to oranges: 2:3
The ratio of apples to bananas to oranges: 1:2:3
For every three oranges, there is one apple.
For every two bananas, there are three oranges.

Introducing the ratio symbol

- 1 The ratios show shaded parts to non-shaded parts.
Match the ratios, statements and bar models.

2 : 3	five to two	
5 : 2	three to two	
2 : 5	two to three	
3 : 2	two to five	

2



The ratio of purple to yellow is 5 : 4

Mo

It is 4 : 5



Alex

Who is correct? Mo

Explain your answer.

For every 5 purple cubes there are 4 yellow cubes.

- 3 Dani has some counters, cubes and marbles.
Complete the sentences.

4 marbles
5 counters
3 cubes

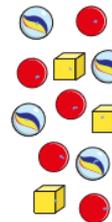
The ratio of counters to marbles is $5 : 4$

The ratio of marbles to cubes is $4 : 3$

The ratio of cubes to counters is $3 : 5$

The ratio of counters to cubes is $5 : 3$

The ratio of counters to cubes to marbles is $5 : 3 : 4$



- 4 Brett has drawn some triangles and squares.

The ratio of triangles to squares is 1 : 3

a) Are there more triangles or more squares? squares

Explain how you know.

For every 1 triangle there are 3 squares

- b) Brett has drawn more than 10 shapes.

Draw what Brett might have drawn.



30/4/20- Fluent in Five Answers

1. $\frac{2}{3}$ of 24 = 16 (M)
2. $85,542 + 432,594 = 518,136$ (W)
3. $91.543 \times 10 = 915.43$ (M)
4. $67 \times 17 = 1,139$ (W)
5. $678 - 90 = 588$ (M)

Thursday Answers

Calculating ratio

White
Rose
Maths

- 1 Eva is baking cakes and cookies.
For every 1 cake, she will bake 2 cookies.



- a) If Eva bakes 3 cakes, how many cookies will she bake?



6

- b) If Eva bakes 10 cookies, how many cakes will she bake?



5

- 2 The ratio of red to yellow counters is 2:3
There are 20 counters in total.
How many counters of each colour are there?
You can colour the counters to help you.



yellow 12

red 8

- 3 Tom has 5 green cubes for every 3 yellow cubes.
He has 16 cubes in total.
Draw a diagram to represent this.



- 4 Esther is building a tower of cubes.
The ratio of red to yellow cubes is 3:1
The tower has 6 yellow cubes. How many red cubes are there?



18

- 5 Nijah plays 21 games of chess.
For every 2 games she wins, she loses 5 games.
How many more games does she lose than win?



9

1) *For every two squares there are six circles.*

The ratio of squares to circles is 2:6.

a) *6 squares*

b) *30 circles*

2) *There are 10 yellow tang fish and 25 goldfish.*

3) a) *If we eat 9 dark chocolates, we will eat 6 milk chocolates.*

b) *If we eat 45 chocolates altogether we would have eaten 27 dark chocolates and 18 milk chocolates.*