Year 6 Maths Home Learning

Week one includes:

- 5 a day – one for each school day (set a timer for between 3 and 5 minutes)
- Maths I do you do – read the power point (40 minutes)
- Practise questions (60 minutes)
- Expected questions (60 minutes)
- Extension questions – are you up for a challenge? (as long as it takes!)
- Answers – 5 a day
- Answers for practise questions will be added to the website on Wednesday and expected questions on Friday.

Week 1   Day 1

Monday

Easy:
1. 23 x 10
2. 56 x 100
3. 67 x 1000
4. 701 x 10
5. 760 ÷ 10

Medium:
1. 2.3 x 10
2. 5.6 x 100
3. 6.07 x 1000
4. 7.01 x 10
5. 7.06 ÷ 10

Hard:
1. 0.23 x 10
2. 0.056 x 100
3. 0.0067 x 1000
4. 0.0701 x 10
5. 0.0760 ÷ 10

Week 1   Day 2

Tuesday

Easy:
1. 23 x 4
2. 87 x 12
3. 67 x 9
4. 701 x 4
5. 423 x 11

Medium:
1. 34 x 14
2. 254 x 12
3. 679 x 43
4. 567 x 12
5. 567 x 19

Hard:
1. 673 x 19
2. 567 x 12
3. 5672 x 12
4. 7820 x 12
5. 4782 x 128

Week 1   Day 3

Wednesday

Easy:
1. 210 ÷ 7
2. 189 ÷ 9
3. 135 ÷ 3
4. 432 ÷ 6
5. 539 ÷ 11

Medium:
Give your answer as a remainder
1. 210 ÷ 4
2. 342 ÷ 9
3. 452 ÷ 7
4. 782 ÷ 6
5. 451 ÷ 15

Hard:
Give your answer as a remainder
1. 6730 ÷ 12
2. 5672 ÷ 12
3. 5672 ÷ 11
4. 7820 ÷ 14
5. 4782 ÷ 21

Week 1   Day 4

Thursday

Easy:
1. 2 x 9
2. 3 x 4
3. 9 x 2
4. 8 x 3
5. 4 x 3

Medium:
1. 11 x 9
2. 12 x 12
3. 12 x 8
4. 4 x 12
5. 60 x 9

Hard:
1. 108 ÷ 12
2. 9 x 11
3. 77 ÷ 11
4. 1.1 x 9
5. 4.5 ÷ 5

Week 1	Day 5

Medium:
1. (5+2) x 9
2. 9+2 x 4
3. 9-(1 x 3)+4
4. 11+4 x (3+1)
5. 12 − (3 + 2) x 4
6. 2 x 4 + (12 ÷ 4)

BIDMAS

Practise questions

P 1
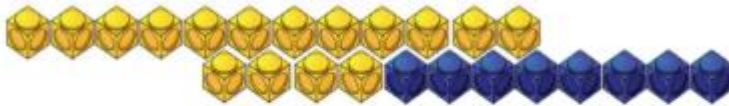
Complete the sentences.

For every two blue flowers there are ____ pink flowers.
For every blue flower there are _____ pink flowers.

P 2

Use cubes to help you complete the sentences.

For every ____ 🟡, there are ____ 🔵
For every 8 🟡, there are ____ 🔵
For every 1 🔵, there are ____ 🟡

P 3

Write down the ratio of:
- Bananas to strawberries
- Blackberries to strawberries
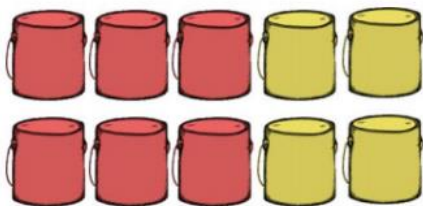- Strawberries to bananas to blackberries
- Blackberries to strawberries to bananas

P 4

1:2   3:5   1:__   1:2:5

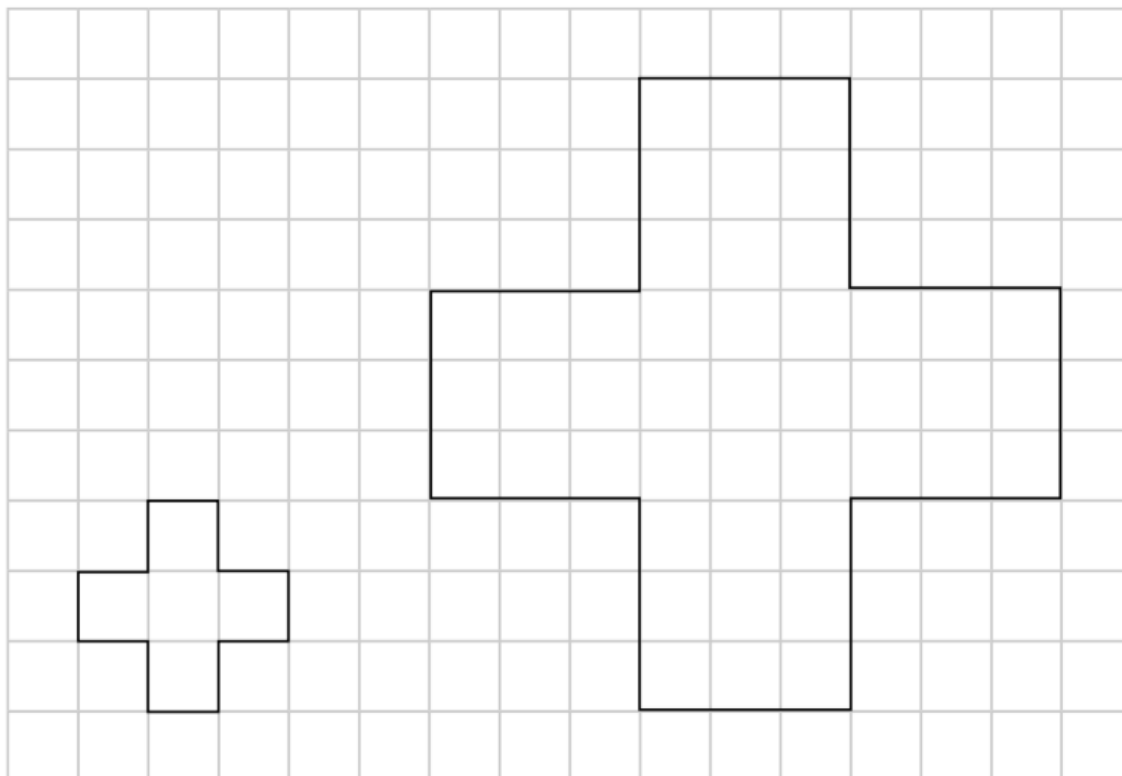4:_   _:20   7:14   4:_:_

Tick the correct statements.

- There are two yellow tins for every three red tins.
- There are two red tins for every three yellow tins.
- The ratio of red tins to yellow tins is $2:3$
- The ratio of yellow tins to red tins is $2:3$
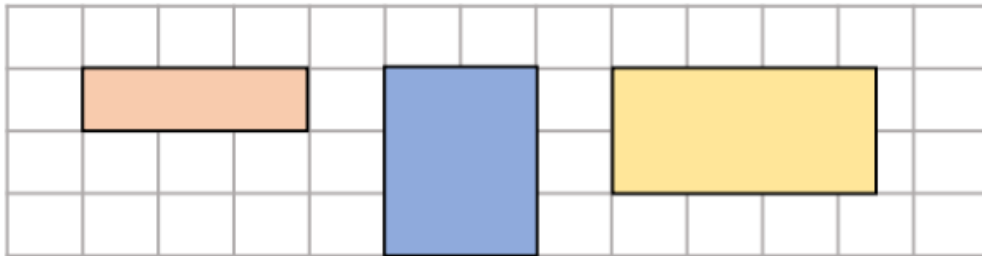
Explain which statements are incorrect and why.

P 6   Identify the scale factor that been used to enlarge this shape:

Copy these rectangles onto squared paper then draw them double the size, triple the size and 5 times as big.

In a pack of balloons, there are 3 different colours: red, blue and green. The ratio is 5:2:1 (red: blue: green). If there are 8 blue balloons in the pack, how many balloons are there in total?

At a party there are three sorts of drinks: orange, lemonade and cherry. The ratio of the drinks is 3:2:1 (orange:lemonade:cherry). If there are 12 glasses of orange, how many glasses of drink are there altogether?

Dev makes soup using 3 mushrooms for every 2 tomatoes. He uses 15 mushrooms.

How many tomatoes does he use? (First of all write the ratio and then write the number of tomatoes that he uses).

Evidence questions

Morning starter: Robotic ratios
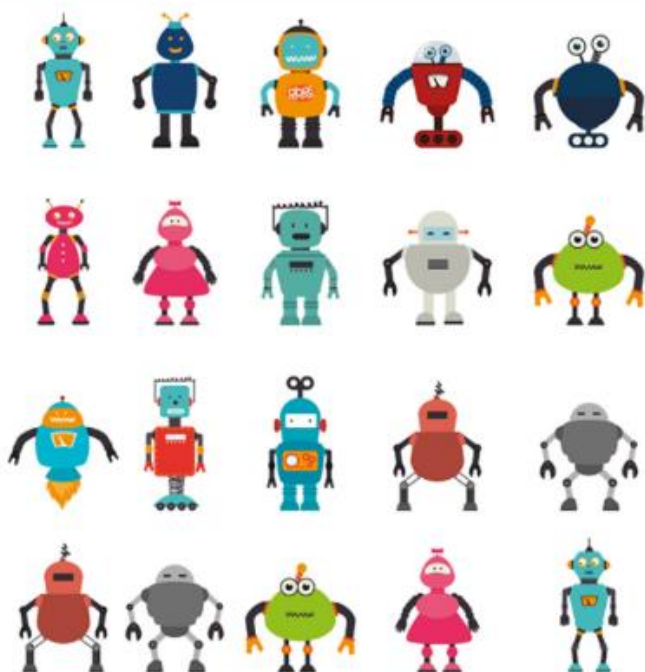
1) How many robots are pink? How many robots are there altogether? What fraction of all the robots are pink? Can you find the equivalent fraction?

2) What percentage of the robots are pink? How can you write this as a decimal?

3) "2 out of 20 robos wear a dress. This is the same as saying 10% of robots wear a dress." True or false? How do you know?

4) True or false: "3 out of 20 robots have wheels. This is the same as saying 15% of the robots have wheels."

5) What fraction of robots have legs? Can you simplify this fraction? What is the ratio of robots with legs to robots without legs?

6) What is the ratio of robots with black hands to robots without? Can you simplify this ratio? What percentage of robots have black hands?

7) "The ratio of grey robots to green robots is 3:2." True or false? How can you prove this?

Create your own similar fraction, percentage and ratio robot questions to share.

ARE 1

2:3   1:5   4:__   4:3:1

4:__   _:15   12:15   8:_:_

ARE 2

This bar model shows the ratio 2 : 3 : 4
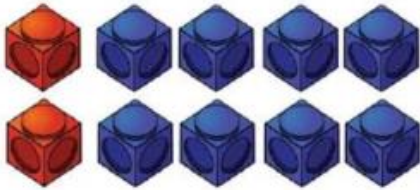

What fraction of the bar is pink?
What fraction of the bar is yellow?
What fraction of the bar is blue?

True or False?

- For every red cube there are 8 blue cubes.
- For every 4 blue cubes there is 1 red cube.
- For every 3 red cubes there would be 12 blue cubes.
- For every 16 cubes, 4 would be red and 12 would be blue.
- For every 20 cubes, 4 would be red and 16 would be blue.

The ratio of red counters to blue counters is 1 : 2

What fraction of the counters is blue?

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

What fraction of the counters is red?

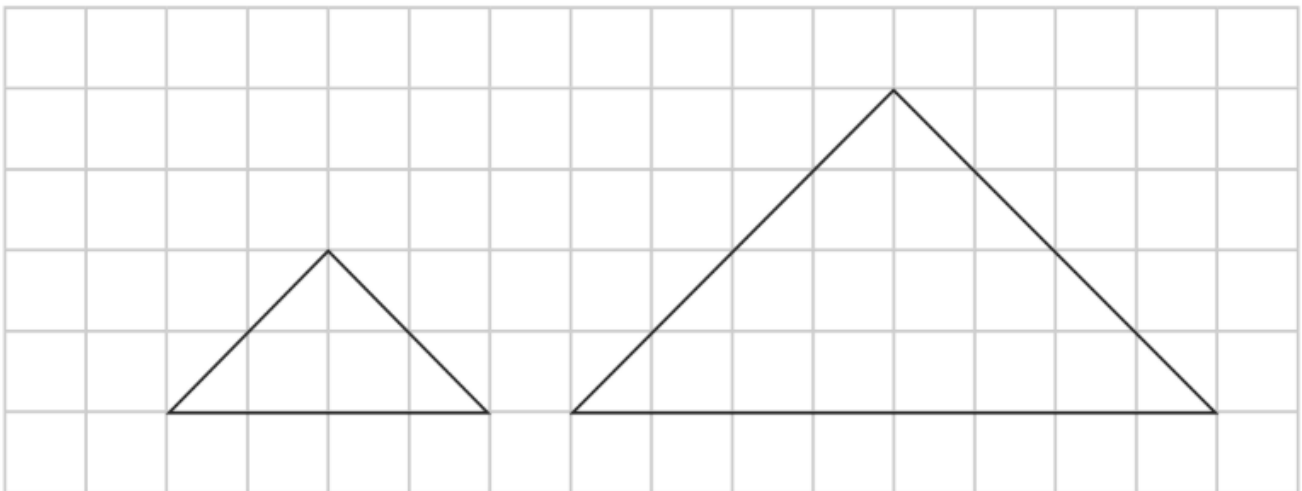| $\frac{1}{2}$	$\frac{1}{3}$	$\frac{2}{3}$

A farmer plants some crops in a field.
For every 4 carrots he plants 2 leeks.
He plants 48 carrots in total.
How many leeks did he plant?
How many vegetables did he plant in total?

Identify the scale factor that been used to enlarge this shape:

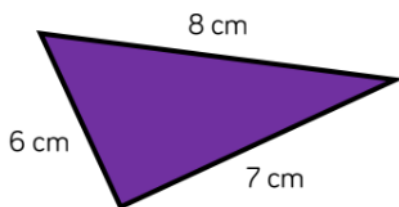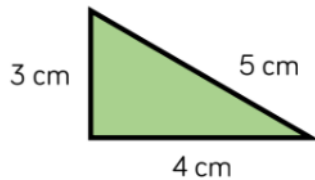Jack says:

The purple triangle is green triangle enlarged by scale factor 3

3 cm
5 cm
4 cm

8 cm
6 cm
7 cm

Do you agree?
Explain why.

Teddy has two packets of sweets.

In the first packet, for every one strawberry sweet there are two orange sweets.

In the second packet, for every three orange sweets there are two strawberry sweets.

Each packet contains 15 sweets in total.

Which packet has more strawberry sweets and by how many?

6. Class 6 do a survey to find out which sport children like best. For every child who said they like rounders, there were three children who liked football and two who said they like swimming best. There were 20 children who said they liked swimming. How many children took part in the survey?

3. Here are the ingredients needed to make a Smoothie for 4 people:

   240ml cranberry juice, 180g raspberries, 120ml milk, 300ml natural yoghurt, 2 tbsp sugar.

   a. How much cranberry juice would be need to make the smoothie for 8 people?

   b. How much milk would be needed for 2 people?

   c. Write the ingredient list for 10 people.

Extension questions

Jessica has a bag with 20 sweets in and Jon has a bag with 30 sweets in. Jessica eats 25% of her sweets. Jon eats 60% of his sweets.

Who has the most sweets left?

Enlarge this shape by a scale factor of 2.
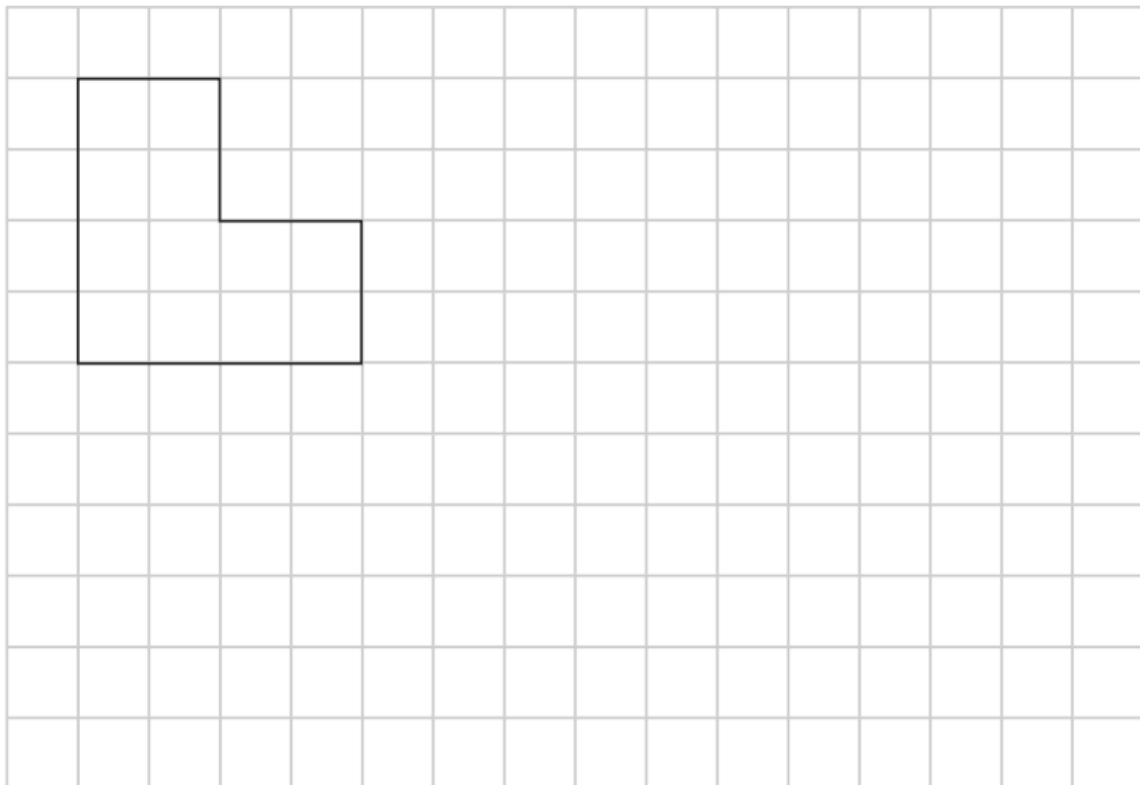
Whitney lays tiles in the following pattern

If she has 16 red tiles and 20 yellow tiles remaining, can she continue her pattern without there being any tiles left over?

Explain why.

There are some red and green cubes in bag. $\frac{2}{5}$ of the cubes are red.
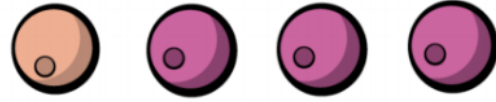
True or False?

- For every 2 red cubes there are 5 green cubes.
- For every 2 red cubes there are 3 green cubes.
- For every 3 green cubes there are 2 red cubes.
- For every 3 green cubes there are 5 red cubes.

Explain your answers.

is making some necklaces to sell. For every one pink bead, she uses three purple beads.

Each necklace has 32 beads in total.

The cost of the string is £2.80
The cost of a pink bead is 72p.
The cost of a purple bead is 65p.

How much does it cost to make one necklace?

How much of each ingredient is needed to make soup for:
- 3 people
- 9 people
- 1 person

What else could you work out?

Recipe for 6 people

- 1 onion
- 60 g butter
- 180 g lentils
- 1.2 litres stock
- 480 ml tomato juice

This recipe makes 10 flapjacks.

Flapjacks

120 g butter
100 g brown sugar
4 tablespoons golden syrup
250 g oats
40 g sultanas

Amir has 180 g butter.

What is the largest number of flapjacks he can make?

How much of the other ingredients will he need?

Answers – 5 a day

Monday

Easy:
1. $23 \times 10 = 230$
2. $56 \times 100 = 5,600$
3. $67 \times 1000 = 67,000$
4. $701 \times 10 = 7,010$
5. $760 \div 10 = 76$

Medium:
1. $2.3 \times 10 = 23$
2. $5.6 \times 100 = 560$
3. $6.07 \times 1000 = 6070$
4. $7.01 \times 10 = 70.1$
5. $7.06 \div 10 = 0.706$

Hard:
1. $0.23 \times 10 = 2.3$
2. $0.056 \times 100 = 5.6$
3. $0.0067 \times 1000 = 6.7$
4. $0.0701 \times 10 = 0.701$
5. $0.0760 \div 10 = 0.0076$

Tuesday

Easy:
1. $23 \times 4 = 92$
2. $87 \times 12 = 1,044$
3. $67 \times 9 = 603$
4. $701 \times 4 = 2,804$
5. $423 \times 11 = 4,653$

Medium:
1. $34 \times 14 = 476$
2. $254 \times 12 = 3,048$
3. $679 \times 43 = 29,197$
4. $567 \times 12 = 6,804$
5. $567 \times 19 = 10,773$

Hard:
1. $673 \times 19 = 6,057$
2. $567 \times 12 = 6,804$
3. $5672 \times 12 = 68,064$
4. $7820 \times 12 = 93,840$
5. $4782 \times 128 = 612,096$

Wednesday

Easy:
1. $210 \div 7 = 30$
2. $189 \div 9 = 21$
3. $135 \div 3 = 45$
4. $432 \div 6 = 72$
5. $539 \div 11 = 49$
6. $372 \div 12 = 31$

Medium:
Give your answer as a remainder
1. $210 \div 4 = 52r2$
2. $342 \div 9 = 38$
3. $452 \div 7 = 64r4$
4. $782 \div 6 = 130r2$
5. $451 \div 15 = 30r1$

Hard:
Give your answer as a remainder
1. $6730 \div 12 = 560r10$
2. $5672 \div 12 = 472r8$
3. $5672 \div 11 = 515r7$
4. $7820 \div 14 = 558r8$
5. $4782 \div 21 = 227r15$

Thursday

Easy:
1. $2 \times 9 = 18$
2. $3 \times 4 = 12$
3. $9 \times 2 = 18$
4. $8 \times 3 = 24$
5. $4 \times 3 = 12$
6. $6 \times 9 = 54$

Medium:
1. $11 \times 9 = 99$
2. $12 \times 12 = 144$
3. $12 \times 8 = 96$
4. $4 \times 12 = 48$
5. $60 \times 9 = 540$
6. $40 \times 5 = 200$

Hard:
1. $108 \div 12 = 9$
2. $9 \times 11 = 99$
3. $77 \div 11 = 7$
4. $1.1 \times 9 = 9.9$
5. $4.5 \div 5 = 0.9$
6. $3 \times 3 \times 4 \times 5 = 180$

Everybody:

$(5+2) \times 9 = 63$

$9+2 \times 4 = 17$

$9-(1 \times 3)+4 = 10$

$11+4 \times (3+1) = 27$

$12 - (3 + 2) \times 4 = -8$

$2 \times 4 + (12 \div 4) = 11$