# St Mary's Church of England Primary School

## Home Learning

**Hello Year Six! I hope you are all okay and staying safe. Try your best at the home learning this week. You are all doing so well – you are home learning heroes! Please continue sending your work to me. I love seeing your brilliant learning!**

| Class 6 | Monday 22.2.2021 | Tuesday 23.2.2021 | Wednesday 24.2.2021 | Thursday 25.2.2021 | Friday 26.2.2021 |
|---|---|---|---|---|---|
| Maths | **Activity 1: Number of the day!** 9,972 <br><br> • Write it in words. <br> • Round to the nearest 10, 100 and 1000. <br> • Multiply by 10, 100 and 1000. <br> • Divide by 10, 100 and 1000. <br> • Add 9,210. <br> • Subtract 6,666. <br> • Double it (x2). <br> • Half it (÷2). <br><br> Use a calculator, a phone or google to check your answers. | **Activity 1: Number of the day!** 10,679 <br><br> • Write it in words. <br> • Round to the nearest 10, 100 and 1000. <br> • Multiply by 10, 100 and 1000. <br> • Divide by 10, 100 and 1000. <br> • Add 10,611. <br> • Subtract 8,358. <br> • Double it (x2). <br> • Half it (÷2). <br><br> Use a calculator, a phone or google to check your answers. | **Wonderful Wednesday!** <br><br> Today is a day where there is no online learning. Instead, you can try out some different activities! The Wonderful Wednesday activities can be found on the school website. <br><br> Please send me photographs of the activities you choose to complete. I would love to see what you get up to! | **Activity 1: Number of the day!** 15,034 <br><br> • Write it in words. <br> • Round to the nearest 10, 100 and 1000. <br> • Multiply by 10, 100 and 1000. <br> • Divide by 10, 100 and 1000. <br> • Add 23,775. <br> • Subtract 12,122. <br> • Double it (x2). <br> • Half it (÷2). <br><br> Use a calculator, a phone or google to check your answers. | **Activity 1: Number of the day!** 102,678 <br><br> • Write it in words. <br> • Round to the nearest 10, 100 and 1000. <br> • Multiply by 10, 100 and 1000. <br> • Divide by 10, 100 and 1000. <br> • Add 67,532. <br> • Subtract 10,356. <br> • Double it (x2). <br> • Half it (÷2). <br><br> Use a calculator, a phone or google to check your answers. |

| | | | | | |
|---|---|---|---|---|---|
| | **Activity 2:**<br>**Maths starter**<br>Scroll down to find the questions to complete. They will be under today's date.<br><br>**Activity 3:**<br>We are going to be learning algebra over the next two weeks!<br>Watch the learning video:<br>Spr6.5.1 - Find a rule - one step on Vimeo<br><br>**Activity 4:**<br>Scroll down to find the worksheet under today's date and complete the six questions. | **Activity 2:**<br>**Maths starter**<br>Scroll down to find the questions to complete. They will be under today's date.<br><br>**Activity 3:**<br>Watch the learning video:<br>Spr6.5.2 - Find a rule - two step on Vimeo<br><br><br>**Activity 4:**<br>Scroll down to find the worksheet under today's date and complete the four questions. | | **Activity 2:**<br>**Maths starter**<br>Scroll down to find the questions to complete. They will be under today's date.<br><br>**Activity 3:**<br>Watch the learning video:<br>Spr6.5.3 - Forming expressions on Vimeo<br><br><br>**Activity 4:**<br>Scroll down to find the worksheet under today's date and complete the five questions. | **Activity 2:**<br>**Maths starter**<br>Scroll down to find the questions to complete. They will be under today's date.<br><br>**Activity 3:**<br>Watch the learning video:<br>Spr6.5.4 - Substitution on Vimeo<br><br><br>**Activity 4:**<br>Scroll down to find the worksheet under today's date and complete the seven questions. |
| Literacy | **Activity 1:**<br>**Spelling Words**<br>Use a strategy of your choice to learn the spellings for this week.<br>• Convenience<br>• Vehicle<br>• Apparently<br>• Attachment<br>• Sacrifice<br>• Triangular<br>• Circular | **Activity 1:**<br>**Spelling Words**<br>Use a strategy of your choice to learn the spellings for this week.<br>• Convenience<br>• Vehicle<br>• Apparently<br>• Attachment<br>• Sacrifice<br>• Triangular<br>• Circular | | **Activity 1:**<br>**Spelling Words**<br>Use a strategy of your choice to learn the spellings for this week.<br>• Convenience<br>• Vehicle<br>• Apparently<br>• Attachment<br>• Sacrifice<br>• Triangular<br>• Circular | **Activity 1:**<br>**Spelling Words**<br>What was your spelling score this week? |

| | | | | |
|---|---|---|---|---|
| | • Familiar<br>• Rectangular<br>• Spectacular<br><br>**Activity 2:**<br>**Grammar Practise**<br>Have a go at this online activity to test your knowledge about adjectives.<br>Adjectives activity.<br><br><br><br><br>**Activity 3:**<br>Broken: rock, paper scissors.<br><br><br><br>Watch the short video and answer these questions.<br>https://vimeo.com/9164220 6<br><br>- Who is Rock watching?<br>- How does Paper move? | • Familiar<br>• Rectangular<br>• Spectacular<br><br>**Activity 2:**<br>**Grammar Practise**<br>You can watch this video to remind you what synonyms and antonyms are.<br>What are synonyms?<br><br>Have a go at this online activity to test your knowledge about synonyms.<br>Synonyms grammar activity.<br><br><br>**Activity 3:**<br>This week we are going to be writing character descriptions using sophisticated vocabulary and perfect sentences! Today, you will be building a vocabulary bank full of adjectives, adverbs, figurative language (similes and metaphors).<br><br>Zoom into the emotions grid and write down 10 emotions. Mark off each time you see one of the | | • Familiar<br>• Rectangular<br>• Spectacular<br><br>**Activity 2:**<br>Watch this video about The Doctor Who characters.<br>https://www.bbc.co.uk/bite size/clips/zth2tfr<br><br>Write down all the words used to describe the characters in Doctor Who.<br><br><br><br><br>**Activity 3:**<br>Today, you are going to write a draft for a character description for either Rock, Paper or Scissors! Use your spider diagrams or bullet points from Tuesday's lesson to help you.<br><br>Try to include this grammar and punctuation in your writing. You can watch these videos to remind you. | • Familiar<br>• Rectangular<br>• Spectacular<br><br>**Activity 2:**<br>Watch this video to learn more about creating a character.<br>How to create a character video.<br><br><br><br><br><br><br>**Activity 3:**<br>Edit your character description draft that you did yesterday.<br><br>You can watch this video to learn more about the editing process.<br>Editing and redrafting - Year 6 - P7 - English - Catch Up Lessons - Home learning with BBC Bitesize - BBC Bitesize<br><br>Use this success criteria to improve your writing. |

| | | | | |
|---|---|---|---|---|
| - What does Rock think about Paper?<br>- Why does Rock want to help Paper?<br>- What happens when Rock touches Paper?<br>- How does Paper feel when Scissors is attacking her home?<br>- How does Paper feel when cornered by Scissors?<br>- Why is Scissors attacking Paper?<br>- Who do you think will win? Why?<br>- What strengths do they have?<br>- What do you think happens to Rock at the end?<br>- How does the music make you feel throughout the clip? | characters displaying one of the emotions.<br>You could either tick each emotion as you see it, or label with R for Rock, P for Paper, S for Scissors to show who experienced each emotion.<br><br>| horror | fascination | concern | interest |<br>| frustration | anger | annoyance | pride |<br>| eagerness | determination | worry | shock |<br>| fear | inspiration | hatred | confusion |<br>| clarity | joy | disappointment | love |<br>| exhilaration | thoughtfulness | peace | pity |<br><br>**Activity 4:**<br>Create a word bank for each character. Think about their appearance, personality and behaviour. You could do this as a spider diagram or bullet points. Can you think of any synonyms?<br><br>**Activity 5:**<br>Write 3 descriptive sentences about each character using your favourite adjectives from your word banks. | | Adjectives:<br>What are adjectives?<br><br>A relative clause:<br>What are relative clauses?<br><br>A fronted adverbial:<br>What is a fronted adverbial?<br><br>Figurative language:<br>What is figurative language?<br><br>Compound sentences:<br>What is a simple, complex and compound sentence? | Read through your character description. Does every sentence make sense? Have you remembered capital letters?<br><br>Have you included the following?<br>- 7 adjectives<br>- Relative clause<br>- Fronted adverbial<br>- Figurative language<br>- Compound sentence<br>- Complex sentence<br>- Show-not-tell to give the reader clues about how the character feels<br><br>**Activity 4:**<br>Rewrite your character description neatly.<br><br>**Activity 5:**<br>Draw your character based on your own character description. |

| Other Activities | History | Art & DT | | RE | Science |
|---|---|---|---|---|---|
| | **History**<br>Our new topic is World War One.<br>Today, you will be finding out how the First World War started.<br><br>**Activity 1:**<br>Watch the learning videos which explain how WW1 started: History KS1 / KS2: A is for Archduke Franz Ferdinand - BBC Teach<br><br>FIRST WORLD WAR \| Educational Video for Kids - YouTube<br><br>**Activity 2:**<br>Write a short paragraph, only a few sentences, to describe how and why the First World War started. Remember to include the start date!<br><br>**Activity 3:**<br>Draw the flags of the Triple Entente (Great Britain, France and Russia) and the Triple Alliance (Germany, Austro-Hungarian Empire and Italy). | **Art & DT**<br>I would like you to design and build a WW1 trench model.<br>Here are some examples:<br><br><br><br><br> | | **RE**<br>Our RE topic this term is Salvation.<br><br>Our learning questions is: What difference does the resurrection make to Christians?<br><br>What is salvation?<br>Being protected or saved from harm.<br><br>**Activity 1:**<br>This picture represents salvation.<br>Write down anything you can see that links to the idea of salvation.<br><br><br><br>**Activity 2:**<br>This picture is from the 'Big Frieze' that we look at in school. | **Science**<br>Our new Science topic is living things and their habitats.<br><br>**Activity 1:**<br>Watch the learning video and read the information. You could even take the quiz!<br>What is classification? - BBC Bitesize<br><br>**Activity 2:**<br>Your task is to classify the animals on the zoo animals list. The animals will be housed in enclosures near to each other.<br><br>Start by deciding on two groups to use to split up the animals, then split each group into two more groups. Carry on until you have classified the individual animals, or cannot think of a way to split the group up any more. |

| | | This is a project that you could make over the next two weeks at home. Please send in pictures once they are completed!<br><br>**French**<br>Learn how to introduce and describe yourself in French! Watch the learning video and complete the activities.<br>Introducing and describing yourself in French (thenational.academy) | | Why do you think this represents salvation? Write down your thoughts and anything you notice about the picture.<br><br> | You can find the zoo animal list and an example diagram at the bottom of this timetable. |
|---|---|---|---|---|---|
| Thinking Time | Take some time out to relax and follow one of these drawing tutorials.<br>Art for Kids Hub - YouTube<br><br>Send me a picture of what you have drawn. I love seeing all your artwork! | Practise your square breathing.<br>KIDS MEDITATION - SQUARE BREATHING (Focus & Calm) - YouTube | | Five finger gratitude. List 5 things you are grateful for – one for each finger!<br><br> | Why be kind?<br>Why Be Kind? - YouTube<br><br>How could you be kind?<br> |
| Exercise and break times |  | How many different types of exercise can you complete this week?<br>•Can you go for a scoot, bike ride, walk or run?<br>•Can you complete an exercise video or recreate a dance routine?<br>•Can you play a ball game?<br>•Can you make up your own exercise routine or obstacle course? | | | |

**Maths Starter – 22.2.21**

## Mild

1. 423 x 2 =
2. 1016 – 200 =
3. 84 ÷6 =
4. 6,237 + 6,959 =
5. 43.2 – 7.85 =
6.

This table shows how many journeys a taxi driver made on five days and how much money he collected.

| | number of journeys | money collected |
|---|---|---|
| Monday | 23 | £85 |
| Tuesday | 36 | £112 |
| Wednesday | 18 | £69 |
| Thursday | 31 | £124 |
| Friday | 35 | £109 |

How much money did he collect on the day that he made the most journeys?

## Medium

1. 423 x 2 =
2. 1016 - 200 =
3. 960 ÷ 12 =
4. 80,000 – 1,600 =
5. Which number can be divided by 9 with a remainder of 1?

| 97 | 98 | 99 |
|---|---|---|
| 107 | 108 | 109 |
| 117 | 118 | 119 |

## Hot

1. 5967 - ? = 239
2. 4.5 ÷100 =
3. 45.737 +15.95 =
4. 2/5 + 6/10 =
5. 26457 x 25 =
6. What is the smallest whole number that when rounded to the nearest 100 the answer is 300?

## Mild Answers

1. 423 x 2 = 846
2. 1016 – 200 = 816
3. 84 ÷6 = 14
4. 6,237 + 6,959 = 13,196
5. 43.2 – 7.85 = 35.35
6. £112

## Medium Answers

1. 423 x 2 = 846
2. 1016 - 200 = 816
3. 960 ÷ 12 = 80
4. 80,000 – 1,600 = 78, 400
5. 109

## Hot Answers

1. 5967 – 5728 = 239
2. 4.5 ÷ 100 = 0.045
3. 45.737 +15.95 = 61.687
4. 2/5 + 6/10 = 1
5. 26457 x 25 = 661, 425
6. 250

**Maths Worksheet – 22.2.21**

**1** Whitney makes a pattern of triangles using sticks.

Complete the table below.

| Number of triangles | 1 | 2 | 3 | 4 | 5 | 10 | |
|---|---|---|---|---|---|---|---|
| Number of sticks | | | | | | | 90 |

**2** Complete the tables.

To find the number of wheels, you multiply the number of bicycles by 2

a)

| Number of bicycles | 1 | 2 | 5 | | | 16 |
|---|---|---|---|---|---|---|
| Number of wheels | 2 | | | 18 | 24 | |

b)

| Number of ants | 1 | 2 | 5 | | | 16 |
|---|---|---|---|---|---|---|
| Number of legs | | 12 | | 18 | 24 | |

Explain how to find the number of legs.

**3** Calculate the outputs for the function machines below.
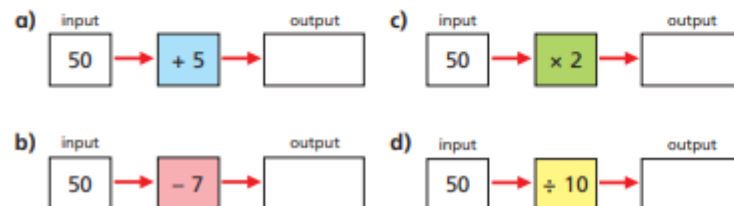
a) input [50] → + 5 → output [ ]

c) input [50] → × 2 → output [ ]

b) input [50] → − 7 → output [ ]

d) input [50] → ÷ 10 → output [ ]

**4** Calculate the inputs for the function machines.

a) input [ ] → + 9 → output [45]

c) input [ ] → × 10 → output [350]

b) input [ ] → − 2 → output [21]

d) input [ ] → ÷ 3 → output [9]

**5** Write the missing functions in the function machines.

a)

| input | | output |
|---|---|---|
| 2 | → [ ] → | 10 |
| 5 | → | 25 |
| 10 | → | 50 |

b)
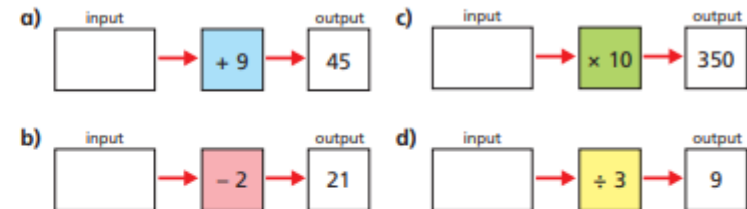
| input | | output |
|---|---|---|
| 8 | → [ ] → | 15 |
| 0 | → | 7 |
| −3 | → | 4 |

**6** Calculate the missing inputs and outputs for the function machine.
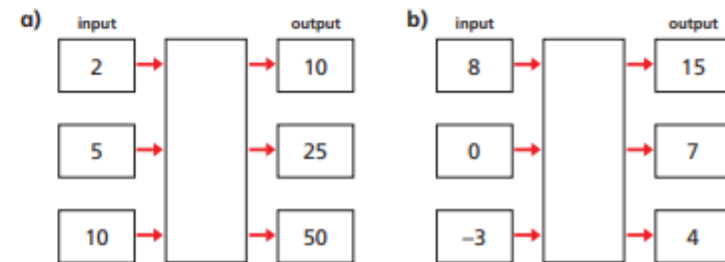
| input | | output |
|---|---|---|
| 8 | → | [ ] |
| [ ] | → | 14 |
| 5.5 | → +10 → | [ ] |
| [ ] | → | 8 |
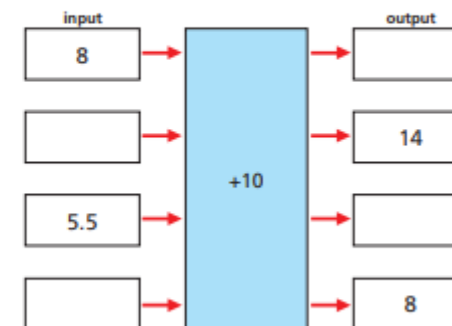
**Maths Starter – 23.2.21**

## Mild

7. 73 x 3 =
8. ? = 375 - 9
9. 7.4 + 0.3 =
10. 8.7 – 5.92 =
11. 213 x 7 =
12.

Here is a square.
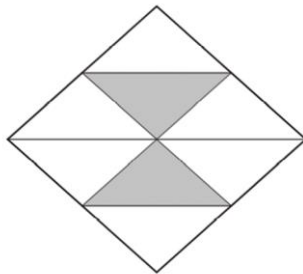
What fraction of the square is shaded?

## Medium

6. 7.42 + 0.3 =
7. 734 x 3 =
8. ? = 2.65 x 6
9. 3/6 + 1/6=
10.

|  | Rounded to the nearest hundred |
|---|---|
| 20,906 | |
| 2,090.6 | |
| 209.06 | |

## Hot

7. 6 x 0.84 =
8. 1/8 x ½ =
9. 37,400 +481, 000 =
10. 3567 ÷ 16 =
11. 8564 - ? = 2456
12.

A box contains 330 matches and weighs 45 grams. The empty box weighs 12 grams. Calculate the weight of one match.

## Mild Answers

1. 73 x 3 = 219
2. 366 = 375 - 9
3. 7.4 + 0.3 = 7.7
4. 8.7 – 5.92 = 2.78
5. 213 x 7 = 1,491
6. 2/8 or 1/4

## Medium Answers

1. 7.42 + 0.3 = 7.72
2. 734 x 3 = 2,202
3. 15.9 = 2.65 x 6
4. 3/6 + 1/6= 4/6 or 2/3
5. 20,900, 2,100, 200

## Hot Answers

1. 6 x 0.84 = 5.04
2. 1/8 x ½ =1/16
3. 37,400 +481,000 = 518,400
4. 3567 ÷ 16 = 222.9375
5. 8564 - 6108 = 2456
6. 0.1g

**Maths Worksheet – 23.2.21**

**1** Use the function machine to complete the table.

input → × 5 → + 2 → output

| Input | 1 | 2 | 3 | 5 | 10 | 50 |
|---|---|---|---|---|---|---|
| Output | | | | | | |

**2** Here is the same function machine with the steps in the reverse order.

input → + 2 → × 5 → output

Teddy: The outputs will be the same.

Jack: The outputs will be different.

Explain to a partner who you think is correct.

Use the function machine to complete the table.

| Input | 1 | 2 | 3 | 5 | 10 | 50 |
|---|---|---|---|---|---|---|
| Output | | | | | | |

Who is correct?

**3** Work out the missing outputs and inputs.

a)
| input | | | output |
|---|---|---|---|
| 1 | × 5 | + 4 | |
| 5 | | | |
| 8 | | | |
| | | | 39 |

b)
| input | | | output |
|---|---|---|---|
| 3 | × 5 | − 4 | |
| 4 | | | |
| 20 | | | |
| | | | 51 |

c)
| input | | | output |
|---|---|---|---|
| 13 | − 3 | ÷ 2 | |
| 3 | | | |
| 12 | | | |
| | | | 8 |
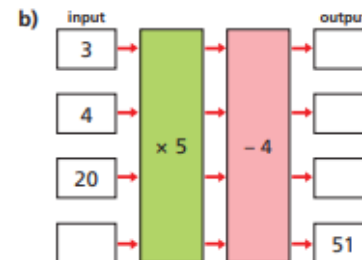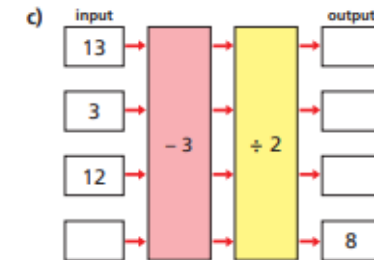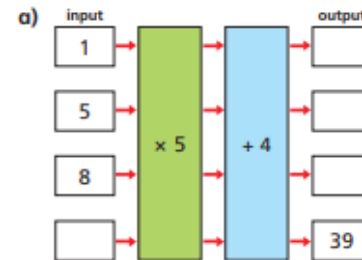
**4** Which pair of function machines will give the same outputs for a given input?

a)
input → + 3 → + 4 → output
input → + 4 → + 3 → output

b)
input → × 3 → − 1 → output
input → − 1 → × 3 → output

c)
input → × 10 → × 2 → output
input → × 2 → × 10 → output
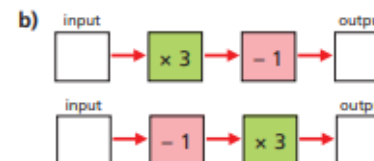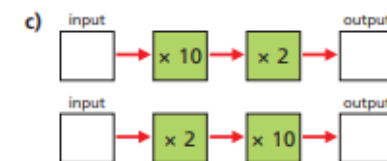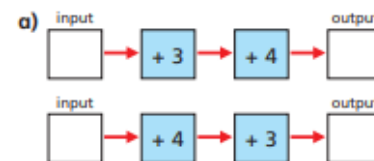
Explain your reasoning to a partner.

**Maths Starter – 25.2.21**

## Mild

1. 1086 + 294 =
2. 63 ÷ 9 =
3. 4.9 + 9.003 =
4. 283,998 – 55,704 =
5. 1.205 x 100 =
6.

The first two numbers in this sequence are 2.1 and 2.2

The sequence then follows the rule

*'to get the next number, add the two previous numbers'*

Write in the next two numbers in the sequence.

2.1    2.2    4.3    6.5    ☐    ☐

## Medium

1. 10865 + 2945 =
2. 636 ÷ 3 =
3. 8,648 + 7,947 =
4. 9,924 ÷ 6 =
5.

Each shape stands for a number.

←Total 100

Total 96

Work out the **value** of each shape.

△ = _____

◯ = _____
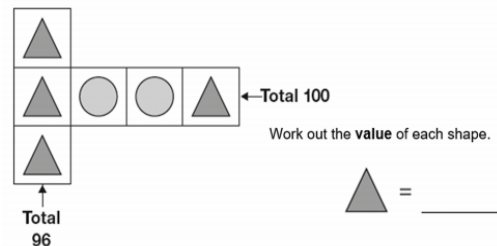
## Hot

1. 7,563 ÷ 26 =
2. 462,067 + 5,989 =
3. 4.56 ÷ 100- =
4. 5/8 of 960 =
5. 95,674 – 389.5 =
6.

Put these fractions in order, starting with the largest.

$$\frac{2}{3} \quad \frac{7}{12} \quad \frac{5}{6} \quad \frac{5}{8}$$

## Mild Answers

1. 1086 + 294 = 1380
2. 63 ÷ 9 = 7
3. 4.9 + 9.003 = 3.903
4. 283,998 – 55,704 = 228,294
5. 1.205 x 100 = 120.5
6. 10.8 and 17.3

## Medium Answers

1. 10865 + 2945 = 13,810
2. 636 ÷ 3 = 212
3. 8,648 + 7,947 = 16,595
4. 9,924 ÷ 6 = 1,654
5.

△ = **32**    ◯ = **18**

## Hot Answers

1. 7,563 ÷ 26 = 290.88
2. 462,067 + 5,989 = 468,056
3. 4.56 ÷ 100 = 0.0456
4. 5/8 of 960 = 600
5. 95,674 – 389.5 = 95,284.5
6. 5/6  2/3  5/8  7/12

**Maths Worksheet – 25.2.21**

**1** Tommy uses multilink cubes to represent an unknown number and base ten ones to represent 1

= $x$    = 1

Write algebraic expressions to describe the sets of cubes.

The first one has been done for you.

a)    $2x + 3$

b)

c)

d)

e)

f)

g)

h)

**2** Use Tommy's method to represent these expressions.

a) $x + 2$    b) $2x$    c) $3x + 1$    d) $x + 6$

Compare answers with a partner.

**3** Use cubes to help you simplify the following expressions.

The first one has been done for you.

a) $2y + 5 + y = 3y + 5$

c) $6p + 2 - 2p$

b) $3a + 2 + a + a$

d) $m + 4 + 3m - 3$

**4** Complete the function machines.
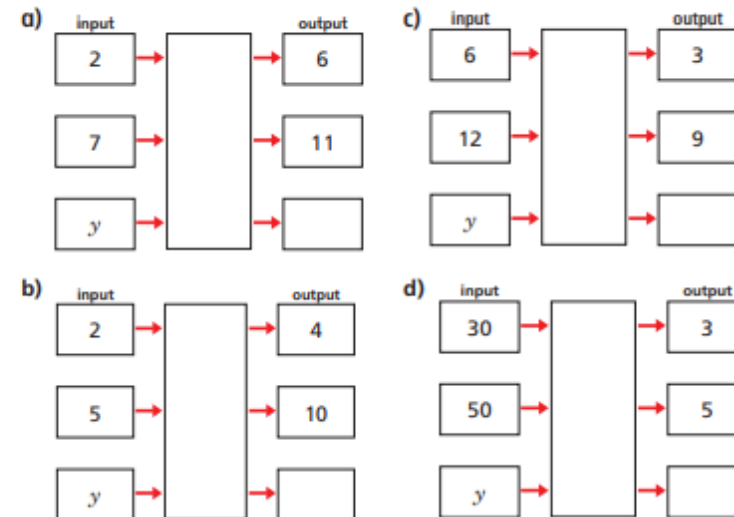
a)
| input | | output |
|---|---|---|
| 2 | → | 6 |
| 7 | → | 11 |
| $y$ | → | |

c)
| input | | output |
|---|---|---|
| 6 | → | 3 |
| 12 | → | 9 |
| $y$ | → | |

b)
| input | | output |
|---|---|---|
| 2 | → | 4 |
| 5 | → | 10 |
| $y$ | → | |

d)
| input | | output |
|---|---|---|
| 30 | → | 3 |
| 50 | → | 5 |
| $y$ | → | |

**5** Match each statement to the equivalent algebraic expression.

Write the missing statements.

| | |
|---|---|
| 5 more than $y$ | $2y$ |
| $y$ less than 5 | $y - 5$ |
| $y$ multiplied by 5 | $5 - y$ |
| $y$ divided by 5 | $y + 5$ |
| double $y$ | $5y$ |
| | $y^2$ |
| | $\frac{y}{5}$ |

**Maths Starter – 26.2.21**

## Mild

1. 3.7 + 4.008 =
2. 5 x 6 x 9 =
3. 1,170 ÷ 13 =
4. 40 x 500 =
5. 666 -8 =
6.

   Alan has **45 beans**.

   He plants **3 beans** in each of his pots.

   How many pots does he need?

## Medium

1. 12 – 7.06 =
2. 24 x 24 =
3. 2 x 3 x 4 x 5 =
4. 3.7 + 4.008 =
5.

   Lara chooses a number less than 20

   She divides it by 2 and then adds 6

   She then divides this result by 3

   Her answer is 4.5

   What was the number she started with?

## Hot

7. 3.45 x ? = 34,500
8. $7^2 + 5^3 = 208 - ?$
9. 245.76 + 48.9 =
10. ¾ - 2/5 =
11. 5867.67 – 28.687 =
12. Are these statements true or false?

    ☐ A triangle can have 2 acute angles.

    ☐ A triangle can have 2 obtuse angles.

    ☐ A triangle can have 2 parallel sides.

    ☐ A triangle can have 2 perpendicular sides.

## Mild Answers

1. 3.7 + 4.008 = 7.708
2. 5 x 6 x 9 = 270
3. 1,170 ÷ 13 = 90
4. 40 x 500 = 20,000
5. 666 -8 =658
6. 15

## Medium Answers

1. 12 – 7.06 = 4.94
2. 24 x 24 = 576
3. 2 x 3 x 4 x 5 = 120
4. 3.7 + 4.008 = 7.708
5. 15

## Hot Answers

1. 3.45 x 10,000 = 34,500
2. $7^2 + 5^3 = 208 - 34$
3. 245.76 + 48.9 = 294.66
4. ¾ - 2/5 = 7/20
5. 5867.67 – 28.687 = 5,838.983
6. True, False, False, True.

**Maths Worksheet – 26.2.21**

**1**

⬠ = 4    ⬤ = 5
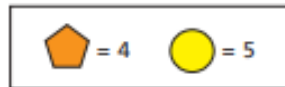
Use the given facts to work out the calculations.

a) ⬠ + ⬠ + ⬤

b) ⬠ + ⬠ − ⬤

c) ⬤ + ⬤ + ⬤ + ⬠ + ⬠

**2**

▲ = 12    ■ = 5

Use the given facts to work out the calculations.

a) ▲ − ■

b) ▲ × ■

c) Create your own calculation that will be equal to 22

**3** If $x = 5$, write the values of the expressions in the corresponding grid.

The first one has been done for you.

| $3x$ | $x^2$ | $2x - 5$ |
|---|---|---|
| $4x + 2$ | $\frac{x}{2}$ | $2(x + 1)$ |
| $7x$ | $x + 9$ | $x - 7$ |

| 15 | | |
|---|---|---|
| | | |
| | | |

**4** If $a = 10$ and $b = 6$, work out the values of the expressions.

a) $a + b$            d) $2a + b$

b) $a - b$            e) $3a - 17$

c) $2a$              f) $2(a - b)$

**5** If $m = \frac{4}{5}$ and $k = 0.1$, work out the value of $m + 2k$

**6**

It does not matter what $p$ and $q$ are, $p + q$ and $q + p$ will always give the same answer.
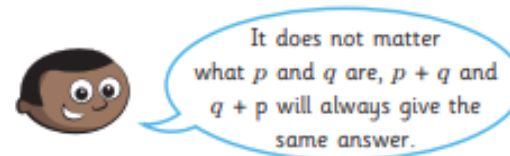
Do you agree with Mo?

Explain your answer.

**7**

$m = 7$    $n = 5$

Write $>$, $<$ or $=$ to compare the expressions.

a)    $2m$ ⬤ $10$

b)    $n - 1$ ⬤ $5$

c)    $2n + m$ ⬤ $2m + n$

d)    $7n$ ⬤ $5m$

**Maths Worksheet Answers –**

**1** Whitney makes a pattern of triangles using sticks.

Complete the table below.

| Number of triangles | 1 | 2 | 3 | 4 | 5 | 10 | 30 |
|---|---|---|---|---|---|---|---|
| Number of sticks | 3 | 6 | 9 | 12 | 15 | 30 | 90 |

**22.2.21**

**2** Complete the tables.

To find the number of wheels, you multiply the number of bicycles by 2

a)

| Number of bicycles | 1 | 2 | 5 | 9 | 12 | 16 |
|---|---|---|---|---|---|---|
| Number of wheels | 2 | 4 | 10 | 18 | 24 | 32 |

b)

| Number of ants | 1 | 2 | 5 | 3 | 4 | 16 |
|---|---|---|---|---|---|---|
| Number of legs | 6 | 12 | 30 | 18 | 24 | 96 |

Explain how to find the number of legs.

Multiply the number of ants by 6

**4** Calculate the inputs for the function machines.

a) input 36 → + 9 → output 45

c) input 35 → × 10 → output 350

b) input 23 → – 2 → output 21

d) input 27 → ÷ 3 → output 9

**5** Write the missing functions in the function machines.

a)

input 2 → → output 10

input 5 → ×5 → output 25

input 10 → → output 50

b)

input 8 → → output 15

input 0 → +7 → output 7

input –3 → → output 4

**3** Calculate the outputs for the function machines below.

a)
input
| 50 | → | + 5 | → | 55 |

output

c)
input
| 50 | → | × 2 | → | 100 |

output

b)
input
| 50 | → | − 7 | → | 43 |

output

d)
input
| 50 | → | ÷ 10 | → | 5 |
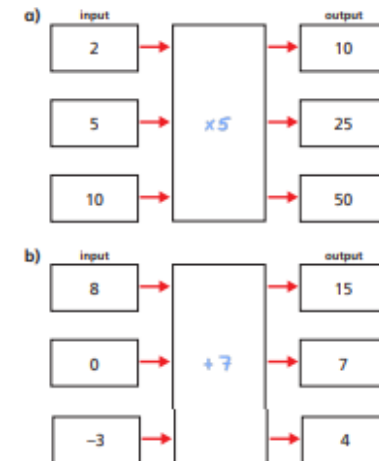
output

**6** Calculate the missing inputs and outputs for the function machine.
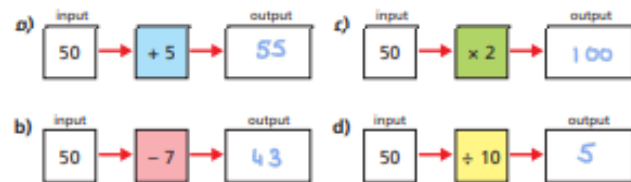
input | +10 | output
| 8 | → | | → | 18 |
| 4 | → | | → | 14 |
| 5.5 | → | | → | 15·5 |
| −2 | → | | → | 8 |
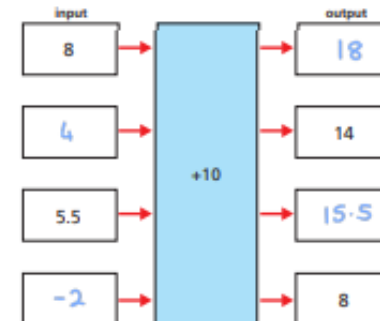
**Maths Worksheet Answers – 23.2.21**

**1** Use the function machine to complete the table.

input → [× 5] → [+ 2] → output

| Input | 1 | 2 | 3 | 5 | 10 | 50 |
|---|---|---|---|---|---|---|
| Output | 7 | 12 | 17 | 27 | 52 | 252 |

**2** Here is the same function machine with the steps in the reverse order.

input → [+ 2] → [× 5] → output

Teddy: The outputs will be the same.

Jack: The outputs will be different.

Explain to a partner who you think is correct.

Use the function machine to complete the table.

| Input | 1 | 2 | 3 | 5 | 10 | 50 |
|---|---|---|---|---|---|---|
| Output | 15 | 20 | 25 | 35 | 60 | 260 |

Who is correct? __Jack__

**3** Work out the missing outputs and inputs.

a) [× 5] [+ 4]

| input | output |
|---|---|
| 1 | 9 |
| 5 | 29 |
| 8 | 44 |
| 7 | 39 |

b) [× 5] [− 4]

| input | output |
|---|---|
| 3 | 11 |
| 4 | 16 |
| 20 | 96 |
| 11 | 51 |

c) [− 3] [÷ 2]

| input | output |
|---|---|
| 13 | 5 |
| 3 | 0 |
| 12 | 4·5 |
| 19 | 8 |
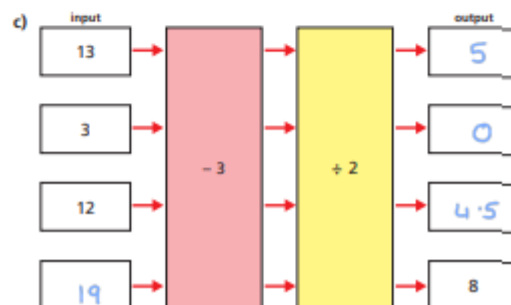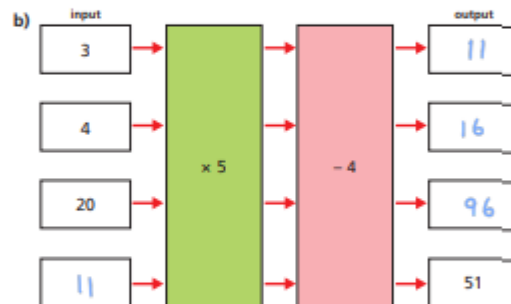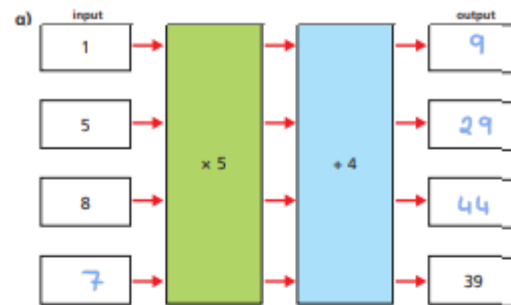
**4** Tick the pairs of function machines that will give the same outputs for a given input.

a) input → [+ 3] → [+ 4] → output   ✓

input → [+ 4] → [+ 3] → output

b) input → [× 3] → [− 1] → output   ☐

input → [− 1] → [× 3] → output

c) input → [× 10] → [× 2] → output   ✓

input → [× 2] → [× 10] → output
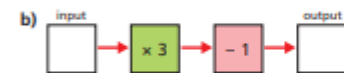
# Maths Worksheet Answers – 25.2.21

**1** Tommy uses multilink cubes to represent an unknown number and base ten ones to represent 1

🟢 $= x$    🟥 $= 1$
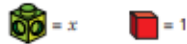
Write algebraic expressions to describe the sets of cubes.
The first one has been done for you.

a) 🟢🟢🟥🟥🟥   $2x + 3$

b) 🟢🟢🟢🟥🟥🟥🟥🟥   $3x + 5$

c) 🟢🟢🟢   $3x$

d) 🟢🟥🟥🟥   $x + 3$

e) 🟢🟢🟥🟥🟥🟥🟥   $2x + 5$

f) 🟢🟢🟢🟢🟢🟥🟥   $5x + 2$

g) 🟥🟥🟥🟥🟥🟥🟢🟢   $2x + 6$

h) 🟥🟥🟥🟢🟥🟥🟥🟢 🟥🟢🟢🟥🟥   $4x + 9$

**2** Varied answers. I will take a look at your answers when you send me a photograph of your work.

---

**3** Use cubes to help you simplify the following expressions.
The first one has been done for you.

a) $2y + 5 + y$

🟢🟢🟥🟥🟥🟥🟥🟢   $3y + 5$

b) $3a + 2 + a + a$

🟢🟢🟢🟥🟥🟢🟢   $5a + 2$

c) $6p + 2 - 2p$

🟢🟢🟢🟢🟢🟢🟥🟥   $4p + 2$

d) $m + 4 + 3m - 3$

$4m + 1$

---

**4** Complete the function machines.

a)
| input | | output |
|---|---|---|
| 2 | +4 | 6 |
| 7 | | 11 |
| $y$ | | $y + 4$ |

b)
| input | | output |
|---|---|---|
| 2 | ×2 | 4 |
| 5 | | 10 |
| $y$ | | $2y$ |

c)
| input | | output |
|---|---|---|
| 6 | -3 | 3 |
| 12 | | 9 |
| $y$ | | $y - 3$ |

d)
| input | | output |
|---|---|---|
| 30 | ÷10 | 3 |
| 50 | | 5 |
| $y$ | | $\frac{y}{10}$ |

---

**5** Match each statement to the equivalent algebraic expression.
Write the missing statements.

| Statement | Expression |
|---|---|
| 5 more than $y$ | $2y$ |
| $y$ less than 5 | $y - 5$ |
| $y$ multiplied by 5 | $5 - y$ |
| $y$ divided by 5 | $y + 5$ |
| double $y$ | $5y$ |
| 5 less than $y$ | $y^2$ |
| $y$ multiplied by $y$ | $\frac{y}{5}$ |
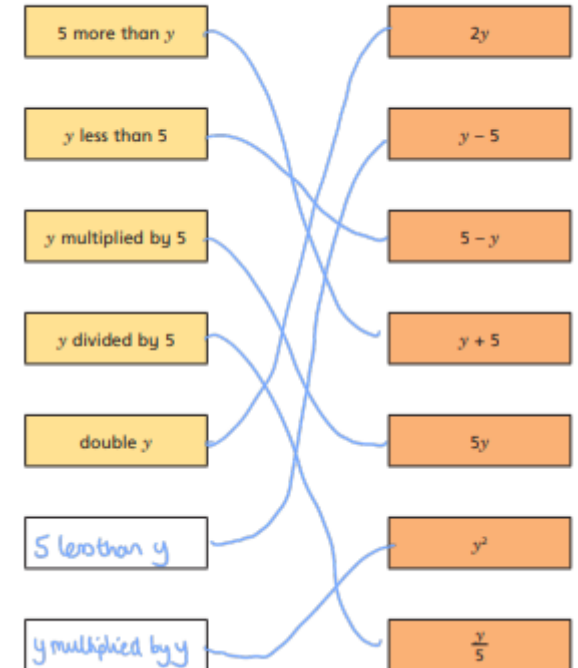
**Maths Worksheet Answers – 26.2.21**

**1**
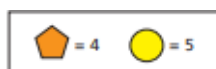
Pentagon = 4   Circle = 5

Use the given facts to work out the calculations.

a) Pentagon + Pentagon + Circle = **13**

b) Pentagon + Pentagon − Circle = **3**

c) Circle + Circle + Circle + Pentagon + Pentagon = **23**

**2**

Triangle = 12   Square = 5

Use the given facts to work out the calculations.

a) Triangle − Square = **7**

b) Triangle × Square = **60**

c) Create your own calculation that will be equal to 22

e.g.   Triangle + Square + Square

**3** If $x = 5$, write the values of the expressions in the corresponding grid.
The first one has been done for you.

| $3x$ | $x^2$ | $2x - 5$ |
|------|-------|----------|
| $4x + 2$ | $\frac{x}{2}$ | $2(x + 1)$ |
| $7x$ | $x + 9$ | $x - 7$ |

| 15 | 25 | 5 |
|----|----|---|
| 22 | 2·5 | 12 |
| 35 | 14 | −2 |

**4** If $a = 10$ and $b = 6$, work out the values of the expressions.

a) $a + b =$ **16**

d) $2a + b =$ **26**

b) $a - b =$ **4**

e) $3a - 17 =$ **13**

c) $2a =$ **20**

f) $2(a - b) =$ **8**

**5** If $m = \frac{4}{5}$ and $k = 0.1$, work out the value of $m + 2k$

**1**

**6**

Mo

It does not matter what $p$ and $q$ are, $p + q$ and $q + p$ will always give the same answer.

Do you agree with Mo? **Yep**

Explain your answer.

_Addition is Commutative_

**7**

$m = 7$   $n = 5$

Write >, < or = to compare the expressions.

a) $2m$ **>** $10$

b) $n - 1$ **<** $5$

c) $2n + m$ **<** $2m + n$

d) $7n$ **=** $5m$

**Science Work – 26.2.21**

These animals are going to live in a new zoo. You need to classify the animals so that similar species can be housed near to each other.



lion



chameleon



tarantula



lobster



hissing cockroach



giraffe



poison dart frog



macaw



chimpanzee



octopus



giant snail



komodo dragon



Galapagos penguin



spectacled bear



meerkat



emu

### Classification diagram example:

**4 legs**

Lion, chameleon, giraffe, poison arrow frog, chimpanzee, komodo dragon, spectacled bear, meerkat

**Not 4 legs**

Tarantula, lobster, hissing cockroach, macaw, octopus, giant snail, penguin, emu

**Mammals**

Lion, giraffe, chimpanzee, spectacled bear, meerkat

**Not Mammals**

Chameleon, poison dart frog, komodo dragon

**More than 4 legs**

Tarantula, octopus, hissing cockroach, lobster

**Less than 4 legs**

Macaw, giant snail, penguin, emu

**Land**

Tarantula, hissing cockroach

**Sea**

Octopus, lobster

**Birds**

Macaw, penguin, emu

**Not birds**

Giant snail