 

**Year 8 – Spring Assessment 2**

**Time: 45 minutes Calculator allowed**

 **Name: .................................... Maths Teacher: .........................**

 **Date: ......................... Maths Class: .........................**

Answer all the questions

Read the questions carefully

Show your working

Check your answers

Mark (45)





**Things I need to practise:**

**Things I did well:**

**Q1. Caribbean cordial**

          Here are the ingredients for a cordial used to make a drink.



Jenny is going to make this cordial with **25g** of ginger.

          How much lemon, water and sugar should she use?



3 marks

**Q2.**          **Boxes**

          Lisa has some boxes that are all cubes of the same size.

          She uses four of the boxes to make a pile with a height of **72 cm**.

          She puts one more box on top of the pile.

          

          Work out the height of the pile of **five** boxes.



....................... cm

2 marks

**Q3.**          **Litres to gallons**

          A petrol station shows this information:

|  |
| --- |
| 10 litres = 2.2 gallons |

          How many gallons is **50 litres**?



..................... gallons

2 marks

 **Q4.**          **Building kits**

          Toy building kits come in three sizes.

          The **ratio** of **bricks** to **doors** is the **same** in each pack.

(a)     Work out how many doors there are in a Standard pack.



1 mark

(b)     Work out how many **bricks** there are in a Super pack.



1 mark

**Q5.**          **Doughnuts**

          Here are the prices of doughnuts at two different shops.

|  |  |  |
| --- | --- | --- |
| Shop A |   | Shop B |
| 3 doughnuts for £2 |   | 5 doughnuts for £3.50 |

          I want to buy **15** doughnuts.

          In which shop are the doughnuts **cheaper**?

          You **must** show your working.



          Tick () your answer.

      Shop A               Shop B

2 marks

**Q6.**          **Screenwash**

          Screenwash is used to clean car windows.

To use Screenwash you mix it with water.



(a)     In **winter,** how much water should I mix with **150ml of Screenwash**?

  .......................... ml

1 mark

(b)     In **summer,** how much Screenwash should I mix with **450ml of water**?

  .......................... ml

1 mark

(c)     Is this statement correct?

|  |
| --- |
| **25%** of **winter** mixture is **Screenwash**. |

Tick () Yes or No.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | True |   |   | False |   |

Explain your answer.



1 mark

**Q7.**          **Paint**

          You can make different colours of paint by mixing red, blue and yellow in different **proportions.**

          For example, you can make green by mixing **1 part blue** to **1 part yellow.**

(a)     To make purple, you mix 3 parts red to 7 parts blue.

          How much of each colour do you need to make **20** **litres** of purple paint?

          Give your answer in litres.



..................... litres of red   and   ..................... litres of blue

2 marks

(b)     To make orange, you mix **13** **parts yellow** to **7 parts red.**

          How much of each colour do you need to make **10 litres** of orange paint?
Give your answer in litres.



..................... litres of yellow   and   ..................... litres of red

2 marks

**Q8** One morning last summer Ravi carried out a survey of the birds in the school garden.

          He saw 5 pigeons, 20 crows, 25 seagulls and 45 sparrows.

          Complete the line below to show the ratios.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|   | Pigeons | : | Crows | : | Seagulls | : | Sparrows |
|  | 1 | : | **...........** | : | **...........** | : | **...........** |

                                                                                                                                                     2 marks

**Q9.**          **Cutting a cake**

          Ben is **10** years old.

          Cindy is **15** years old.

          Tom is **20** years old.

 They are going to cut a cake into 3 slices from the centre.

          The size of the slices will be proportional to their ages.

          What will the **angle** at the centre of **Ben’s** slice be?



..................°

2 marks

 **Q10.**          **Yoghurt**

          A dessert has both fruit and yoghurt inside.

                        

          **Altogether**, the mass of the fruit and yoghurt is **175g**.

          The **ratio** of the mass of **fruit** to the mass of **yoghurt** is **2 : 5**

          What is the mass of the yoghurt?



...................... g

2 marks

 **Q11.**          **Tennis prizes**

          Each year, there is a tennis competition in Australia and another one in France.

          The table shows how much money was paid to the winner of the men’s
competition in each country in 2002.

|  |  |
| --- | --- |
| Country | Money |
| Australia | 1000 000 Australian dollars (£1 = 2.70 Australian dollars) |
| France | 780 000 Euros (£1 = 1.54 Euros) |

          Which country paid **more** money?

          You **must** show your working.



  Tick () the country that paid more.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |   | Australia |   |  France |

2 marks

**Q12.**          **Grey and black designs**

(a)     In this design, the ratio of **grey to black** is **3 : 1**

          What **percentage** of the design is black?



  ............................%

1 mark

(b)     In this design, **60%** is **grey** and the rest is black.

          What is the ratio of **grey to black**?

          Write your ratio in its simplest form.





............. : .............

2 marks

**Q13.**          Here are some exchange rates.

|  |
| --- |
| £1 = 2.03 American dollars |
| £1 = 2.15 Canadian dollars |

Use the exchange rates to answer this question.

(a)     How many **more Canadian** dollars than American dollars would you get for £250?



|  |
| --- |
| dollars |

2 marks

(b)     How many **more pounds (£)** would you get for 250 American dollars than for 250 Canadian dollars?



|  |
| --- |
| £ |

2 marks

**Q14.**          **Ratio**

(a)     On this necklace the ratio of black beads to white beads is **1 : 3**

****

          How many **more** black beads do you need to add to make the
ratio of black to white **3 : 1**?

 ................... black beads

1 mark

(b)     Here is the necklace again.



          How many **more** black beads and white beads do you need to add to make the ratio of black to white **3 : 2**?

 ....................... black beads, ....................... white beads

1 mark

**Q15.**          **Red and blue cubes**

          In a bag, there are **red** and **blue** cubes in the ratio **4 : 7**

                                 

          I add **10 more red cubes** to the bag.

          Now there are **red** and **blue** cubes in the ratio **6 : 7**

                               

          How many **blue** cubes are in the bag?



...................

2 marks

**Q16.**          **Shadows**

          Tom’s height is 1.8m.

          He stands near a tree.



Not drawn accurately

          At 4pm, the length of Tom’s shadow is 2.7m.

          At 4pm, the length of the tree’s shadow is 6.3m.

          What is the height of the tree?



|  |
| --- |
| m |

2 marks

 **Q17.**          **Best buy**

          You can buy jars of the same jam in two sizes.


454g for £1.59                                         340g for £1.25

          Which jar is better value for money?

          You **must** show working to explain your answer.



          Tick () your answer.

               A                  B

2 marks

**Q18.**          **Juice**

          The table shows a recipe for a fruit drink.

|  |  |
| --- | --- |
| Type of juice | Amount |
| Orange | litre |
| Cranberry | litre |
| Grape | litre |
|   | Total 1 litre |

          I want to make **1litres** of the same drink.

          Complete the table below to show how much of each type of juice to use.

          Show your working.



|  |  |
| --- | --- |
| Type of juice | Amount |
| Orange | litre |
| Cranberry | litre |
| Grape | litre |
|   | Total 1 litres |

2 marks

**Q19.**          **Centenarians**

          People who live to be 100 years old are called centenarians.

          In 1998 there were **135 000** centenarians.

          The **ratio** of **male** to **female** was **1 : 4**

          How many **female** centenarians were there in 1998?

          Show your working.



...............................

2 marks