



**BROAD HORIZON**  
— T U I T I O N —

# **11+ Tuition**

**Year 4**

**Week 15**

**ANSWERS**

## Starter Task – Quick Revision

Workout the volume of the shapes with the following dimensions

	Length	Width	Height	Volume
1)	5cm	3cm	2cm	<b><math>30\text{cm}^3</math></b>
2)	12mm	2mm	3cm	<b><math>0.72\text{cm}^3</math> or <math>720\text{mm}^3</math></b>
3)	0.5m	11m	5cm	<b><math>2.75\text{m}^3</math> or <math>275000\text{cm}^3</math></b>

Workout the following:

		Mode	Range	Mean	Median
4)	7, 2, 7, 3	<b>7</b>	<b>5</b>	<b>4.75</b>	<b>5</b>
5)	15, 4, 4	<b>4</b>	<b>11</b>	<b>7.666</b>	<b>4</b>

**(8 marks)**

6) Round 15.5955 to two decimal places

**15.6**

7) Round 24,321 to the nearest thousand

**24,000**

8) Add 87 minutes to 10:25am

**11:52am**

9)  $(9 - 7 + 3)^2 + 8 \times 3 \div 2^3$  **(2 marks)**

**28**

## Exercise C

1. Irritable
2. Significance
3. Penetrate
4. Refuse
5. Dismissal
6. Album
7. Misbehave
8. Generate
9. Grenade
10. Oblivion

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

Working with fractions and whole numbers.

1) Find  $\frac{4}{8}$  of 224 =  
112

11) Find  $\frac{1}{4}$  of 20 =  
5

2) Find  $\frac{3}{4}$  of 36 =  
27

12) Find  $\frac{3}{5}$  of 180 =  
108

3) Find  $\frac{1}{5}$  of 20 =  
4

13) Find  $\frac{5}{8}$  of 400 =  
250

4) Find  $\frac{2}{3}$  of 48 =  
32

14) Find  $\frac{1}{4}$  of 36 =  
9

5) Find  $\frac{6}{10}$  of 300 =  
180

15) Find  $\frac{3}{12}$  of 396 =  
99

6) Find  $\frac{5}{6}$  of 270 =  
225

16) Find  $\frac{3}{10}$  of 90 =  
27

7) Find  $\frac{3}{6}$  of 180 =  
90

17) Find  $\frac{2}{3}$  of 12 =  
8

8) Find  $\frac{4}{5}$  of 120 =  
96

18) Find  $\frac{5}{12}$  of 660 =  
275

9) Find  $\frac{11}{12}$  of 924 =  
847

19) Find  $\frac{1}{3}$  of 36 =  
12

10) Find  $\frac{1}{8}$  of 48 =  
6

20) Find  $\frac{5}{6}$  of 120 =  
100

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : \_\_\_\_\_

Date : \_\_\_\_\_

Working with fractions and whole numbers.

1) Find  $\frac{2}{6}$  of 108 =  
36

11) Find  $\frac{1}{8}$  of 96 =  
12

2) Find  $\frac{1}{4}$  of 32 =  
8

12) Find  $\frac{1}{5}$  of 25 =  
5

3) Find  $\frac{1}{12}$  of 48 =  
4

13) Find  $\frac{4}{6}$  of 144 =  
96

4) Find  $\frac{2}{5}$  of 50 =  
20

14) Find  $\frac{1}{6}$  of 72 =  
12

5) Find  $\frac{5}{8}$  of 440 =  
275

15) Find  $\frac{11}{12}$  of 1320 =  
1210

6) Find  $\frac{2}{5}$  of 90 =  
36

16) Find  $\frac{3}{4}$  of 48 =  
36

7) Find  $\frac{4}{10}$  of 280 =  
112

17) Find  $\frac{11}{12}$  of 1320 =  
1210

8) Find  $\frac{5}{10}$  of 150 =  
75

18) Find  $\frac{1}{10}$  of 20 =  
2

9) Find  $\frac{3}{4}$  of 24 =  
18

19) Find  $\frac{2}{3}$  of 42 =  
28

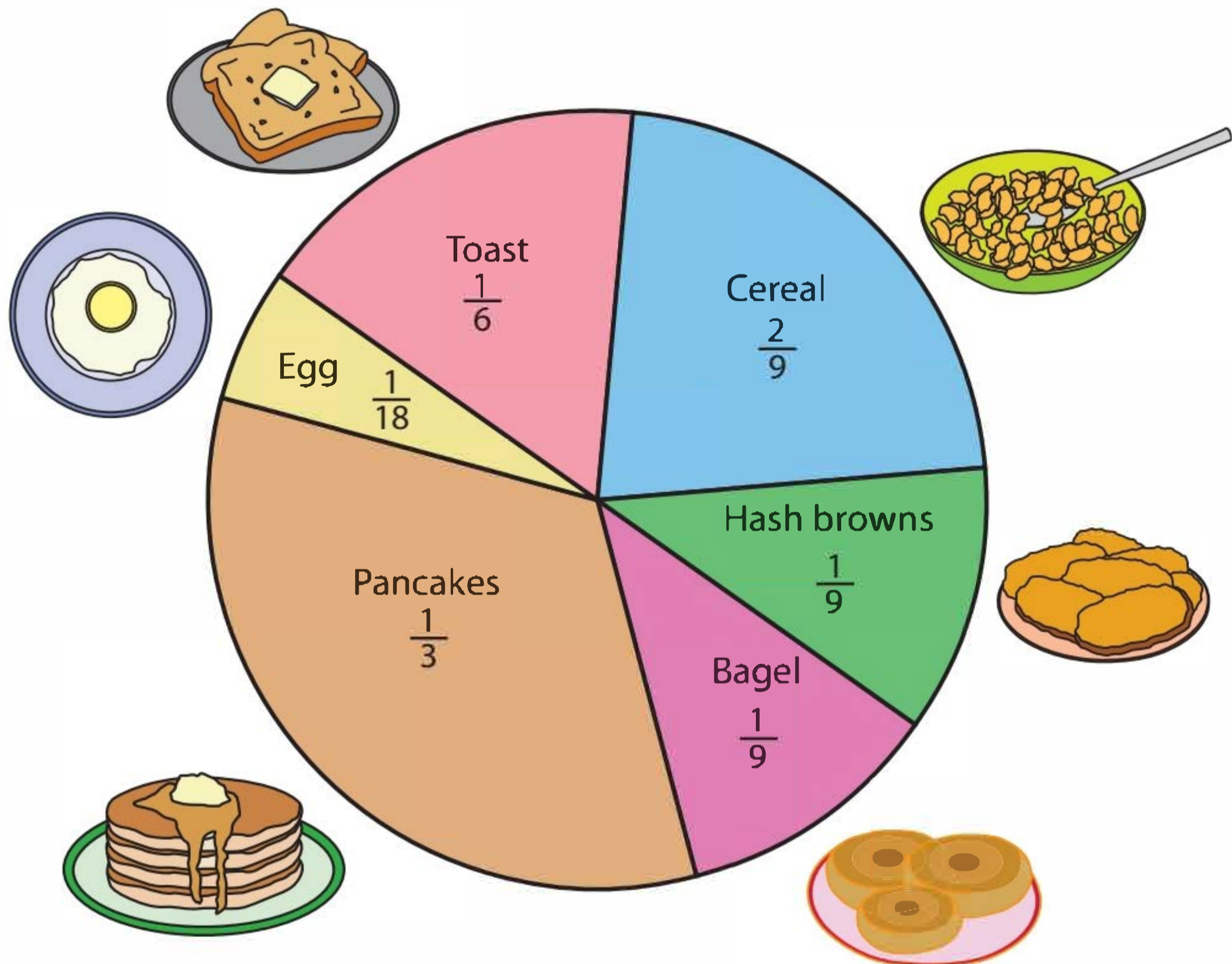
10) Find  $\frac{1}{3}$  of 9 =  
3

20) Find  $\frac{1}{3}$  of 33 =  
11



**Answer Key****Pie Graph - Favorite Breakfast**

108 people were surveyed on their favorite breakfast. The pie graph is made according to their responses. Use the pie graph and answer the questions.



- How many people like to eat cereal for breakfast? 24
- Which food got half the number of votes of bagel? Egg
- How many people would like to have toast? 18
- How many people did not vote for pancakes? 72
- Which morning meal is the favorite choice of 18 people from the survey? Toast

# Multi- Step Word Problems

## Fractions of Amounts **Answers**

- Sarah entered a 100-word story competition. She wrote her story over two evenings. On the first evening, she wrote  $\frac{6}{10}$  and on the second evening she wrote the rest.
  - How many words did she write on the first evening? **60 words**
  - How many words did she write on the second evening and what fraction was this? **40 words =  $\frac{4}{10}$  or  $\frac{2}{5}$**
- Two families, the Smiths and the Taylors, go to a restaurant for a meal. At the end of the night, when they pay their £100 bill, they use a 50% off voucher, which halves their bill. They then split the remaining amount equally between the two families.
  - How much does the bill come to after the discount voucher? **£50**
  - How much of the remaining bill do each family pay? **£25 each**
- There were 120 school children going on a school residential trip. There were 2 coaches, each carrying  $\frac{1}{2}$  of the children. On coach B,  $\frac{1}{6}$  of the children had medication with them.
  - How many children were on each coach? **60 children on each coach**
  - How many children had medication on coach B? **10 children**
- A retired couple won £400 on the lottery. They decided to give  $\frac{3}{4}$  to their family and to spend  $\frac{1}{4}$  on a weekend away for themselves.
  - How much money did the couple give to their family? **£300**
  - How much money did they spend on their weekend away? **£100**
- Jane watched a film that was 1 hour long.  $\frac{5}{6}$  of the way through the film, the doorbell rang. She paused the film to answer the door and it was the postman with a parcel.
  - How many minutes of the film had she watched before the postman arrived? **50 minutes**
  - How many minutes of the film did she have left to watch? **10 minutes**
- A cake maker is icing a wedding cake that needs three different sized tiers. The icing weighs 2000g. He uses  $\frac{6}{10}$  of the icing for the bottom tier,  $\frac{3}{10}$  of the icing for the middle tier and  $\frac{1}{10}$  of the icing for the top tier.
  - What is the weight of icing in the bottom tier? **1200g**
  - What is the weight of icing in the middle tier? **600g**
  - What is the weight of icing in the top tier? **200g**
- A dressmaker has 10m of fabric to make an outfit. He makes a bag with  $\frac{1}{10}$  of the fabric, a skirt with  $\frac{1}{2}$  of the fabric and a top with the rest.
  - How much fabric is used for the bag? **1m**
  - How much fabric is used for the skirt? **5m**
  - How much fabric is used for the top and what is this as a fraction of the total fabric? **4m =  $\frac{4}{10}$  or  $\frac{2}{5}$**
- A chef ordered twenty-four eggs for her restaurant.  $\frac{1}{12}$  of the eggs were used for a chocolate brownie special and  $\frac{1}{4}$  of the eggs were used for cooked breakfasts. From the remainder,  $\frac{1}{2}$  of the eggs were used for the meringue in an Eton Mess pudding.
  - How many eggs were used for the chocolate brownie? **2**
  - How many eggs were used for the breakfasts? **6**
  - How many eggs were used for the Eton Mess? **8**
  - How many eggs were left? **8**
- At the county running championships, a school won 12 medals.  $\frac{1}{2}$  of the medals were gold,  $\frac{1}{3}$  of the medals were silver and  $\frac{1}{6}$  of the medals were bronze.
  - How many medals were gold? **6**
  - How many medals were silver? **4**
  - How many medals were bronze? **2**
- At the local triathlon, which includes cycling, running and swimming, competitors travel a total distance of 15km.  $\frac{2}{3}$  of the distance is cycling.
  - How far do the competitors cycle? **10km**
  - What distance is left for running and swimming? **5km**

# Multi-Step Word Problems

## Fractions of Amounts **Answers**

- Sarah entered a 500-word story competition. She wrote her story over two evenings. On the first evening, she wrote  $\frac{6}{10}$  and on the second evening she wrote the rest.
  - How many words did she write on the first evening? **300 words**
  - How many words did she write on the second evening and what fraction was this? **200 words =  $\frac{4}{10}$  or  $\frac{2}{5}$**
- Two families, the Smiths and the Taylors, go to a restaurant for a meal. At the end of the night, when they pay their £150 bill, they decide to split the bill equally between the two families. Mr Smith pays for his family's half of the bill. The Taylor family, however, decide to split their half of the bill between each of their family members, each member paying  $\frac{1}{3}$  of their family's bill.
  - How much do the Smiths pay? **£75**
  - How much do each member of the Taylor family pay? **£25 each**
- There were 150 school children going on a school residential trip. There were 3 coaches, each carrying  $\frac{1}{3}$  of the children. On coach B,  $\frac{1}{10}$  of the children had medication with them.
  - How many children were on each coach? **50 children on each coach**
  - How many children had medication on coach B? **5 children**
- A retired couple won £800 on the lottery. They decided to give  $\frac{5}{8}$  to their family and to spend  $\frac{3}{8}$  on a weekend away for themselves.
  - How much money did the couple give to their family? **£500**
  - How much money did they spend on their weekend away? **£300**
- Jane watched a film that was 120 minutes long.  $\frac{5}{6}$  of the way through the film, the doorbell rang. She paused the film to answer the door and it was the postman with a parcel.
  - How many minutes of the film had she watched before the postman arrived? **100 minutes or 1 hour and 40 minutes**
  - How many minutes of the film did she have left to watch? **20 minutes =  $\frac{1}{6}$  or  $\frac{20}{120}$  or  $\frac{2}{12}$**
- A cake maker is baking a wedding cake that needs three different sized tiers. The mixture weighs 4000g. He uses  $\frac{1}{2}$  of the mixture for the bottom tier,  $\frac{3}{8}$  of the mixture for the middle tier and  $\frac{1}{8}$  of the mixture for the top tier.
  - What is the weight of the mixture in the bottom tier? **2000g or 2kg**
  - What is the weight of the mixture in the middle tier? **1500g or 1.5kg**
  - What is the weight of the mixture in the top tier? **500g or 0.5kg**
- A dressmaker has 12m of fabric to make an outfit. He makes a bag with  $\frac{1}{12}$  of the fabric, a skirt with  $\frac{1}{2}$  of the fabric and a top with the rest.
  - How much fabric is used for the bag? **1m**
  - How much fabric is used for the skirt? **6m**
  - How much fabric is used for the top and what is this as a fraction of the total fabric? **5m =  $\frac{5}{12}$**
- A chef ordered thirty-six eggs for her restaurant.  $\frac{1}{12}$  of the eggs were used for a chocolate brownie special and  $\frac{1}{4}$  of the eggs were used for cooked breakfasts. From the remainder,  $\frac{1}{2}$  of the eggs were used for the meringue in an Eton Mess pudding.
  - How many eggs were used for the chocolate brownie? **3**
  - How many eggs were used for the breakfasts? **9**
  - How many eggs were used for the Eton Mess? **12**
  - How many eggs were left? **12**
- At the Olympics, a country won 60 medals.  $\frac{1}{2}$  of the medals were gold,  $\frac{1}{3}$  of the medals were silver and  $\frac{1}{6}$  of the medals were bronze.
  - How many medals were gold? **30**
  - How many medals were silver? **20**
  - How many medals were bronze? **10**
- At the local triathlon, competitors travel a total distance of 20km. They cycle  $\frac{4}{5}$  of the distance, run  $\frac{3}{20}$  of the distance and swim  $\frac{1}{20}$  of the distance.
  - How far do the competitors cycle? **16km**
  - How far do the competitors run? **3km**
  - How far do the competitors swim? **1km**

# Multi- Step Word Problems

## Fractions of Amounts **Answers**

- Sarah entered a 500-word story competition. She wrote her story over three evenings. On the first evening, she wrote  $\frac{2}{5}$  on the second evening she wrote  $\frac{3}{10}$  and on the third evening she wrote the rest.

  - How many words did she write on the first evening? **200 words**
  - How many words did she write on the second evening? **150 words**
  - How many words did she write on the third evening and what fraction was this? **150 words =  $\frac{3}{10}$**
- Two families, the Smiths and the Taylors, go to a restaurant for a meal. At the end of the night, when they pay their £177 bill, they decide to split the bill equally between the two families. Mr Smith pays for his family's half of the bill. The Taylor family, however, decide to split their half of the bill between each of their family members, each member paying  $\frac{1}{3}$  of their family's bill.

  - How much do the Smiths pay? **£88.50**
  - How much do each member of the Taylor family pay? **£29.50 each**
- There were 126 school children going on a school residential trip. There were 3 coaches, each carrying  $\frac{1}{3}$  of the children. On coach B,  $\frac{1}{6}$  of the children had medication with them.

  - How many children were on each coach? **42 children on each coach**
  - How many children had medication on coach B? **7 children**
- A retired couple won £628.75 on the lottery. They decided to give  $\frac{3}{5}$  to their family and to spend  $\frac{2}{5}$  on a weekend away for themselves.

  - How much money did the couple give to their family? **£377.25**
  - How much money did they spend on their weekend away? **£251.50**
- Jane watched a film that was 156 minutes long.  $\frac{5}{6}$  of the way through the film, the doorbell rang. She paused the film to answer the door and it was the postman with a parcel.

  - How many minutes of the film had she watched before the postman arrived? **130 minutes or 2 hours and 10 minutes**
  - How many minutes of the film did she have left to watch? **26 minutes =  $\frac{1}{6}$**
- A cake maker is baking a wedding cake that needs three different sized tiers. The mixture weighs 4005g. He uses  $\frac{5}{9}$  of the mixture for the bottom tier,  $\frac{1}{3}$  of the mixture for the middle tier and  $\frac{1}{9}$  of the mixture for the top tier.

  - What is the weight of the mixture in the bottom tier in g and kg? **2225g or 2.225kg**
  - What is the weight of the mixture in the middle tier in g and kg? **1335g or 1.335kg**
  - What is the weight of the mixture in the top tier in g and kg? **445g or 0.445kg**
- A dressmaker has 8.4m of fabric to make an outfit. He makes a bag with  $\frac{1}{7}$  of the fabric, a skirt with  $\frac{2}{7}$  of the fabric and a top with the rest.

  - How much fabric is used for the bag? **1.2m**
  - How much fabric is used for the skirt? **2.4m**
  - How much fabric is used for the top and what is this as a fraction of the total fabric? **4.8m =  $\frac{4}{7}$**
- A chef ordered five dozen eggs for her restaurant.  $\frac{1}{12}$  of the eggs were used for a chocolate brownie special and  $\frac{1}{4}$  of the eggs were used for cooked breakfasts. From the remainder,  $\frac{1}{2}$  of the eggs were used for the meringue in an Eton Mess pudding.

  - How many eggs were used for the chocolate brownie? **5**
  - How many eggs were used for the breakfasts? **15**
  - How many eggs were used for the Eton Mess? **20**
  - How many eggs were left? **20**

- At the Olympics, a country won 84 medals.  $\frac{1}{2}$  of the medals were gold,  $\frac{1}{3}$  of the medals were silver and  $\frac{1}{6}$  of the medals were bronze.

  - How many medals were gold? **42**
  - How many medals were silver? **28**
  - How many medals were bronze? **14**
- At the local triathlon, competitors travel a total distance of 25km. They cycle  $\frac{4}{5}$  of the distance. From the remainder of the distance, they run  $\frac{9}{10}$  and swim  $\frac{1}{10}$ .

  - How far do the competitors cycle? **20km**
  - How far do the competitors run? **4.5km**
  - How far do the competitors swim? **0.5km**

## Comprehension Test 15

---

- Q1 C**  
*440 000 000 years old*
- Q2 A**  
*To settle in a place*
- Q3 B**  
*The fungus formed soil*
- Q4 E**  
*Shorter than the width of a human hair*
- Q5 B**  
*Noun*
- Q6 D**  
*Decomposing*
- Q7 C**  
*A petrified impression*
- Q8 D**  
*Sea creatures*
- Q9 E**  
*Sweden and Scotland*
- Q10 A**  
*Adverb*

## Comprehension Test 16

---

- Q1 E**  
*Found the activities very exciting*
- Q2 C**  
*Inept*
- Q3 C**  
*Verb*
- Q4 D**  
*Silver and gold*
- Q5 D**  
*Seventy years*
- Q6 B**  
*They sailed in fleets*
- Q7 C**  
*They flew flags with scary pictures on*
- Q8 D**  
*The pirates were known to be very frightening*
- Q9 E**  
*A flag with skull and crossbones on it*
- Q10 C**  
*In the South China Sea*

## **TYPE THIRTEEN:**

**car**

**36**

**orange**

**sergeant**

**toddler**

**cup**

**3.15 a.m.**

**July**

**hour**

**pentagon**

**£4.40**

**tug**

**Wednesday**

**366**

**fifth**

**dog**

**word**

**river**

**shopping bag**

**trio**

# Verbal Reasoning - Difficult Vocab

## 4) Army Ranks:

- General
- Brigadier
- Colonel
- Major
- Captain
- Lieutenant
- Warrant Officer
- Sergeant
- Corporal
- Private



## 12) In order of size:

i) Kayak



ii) Canoe



iii) Tugboat



iv) Liner



v) Aircraft Carrier



**18) In order of size:**

i) Brook – A small natural watercourse



ii) Source - Starting place of a river or stream



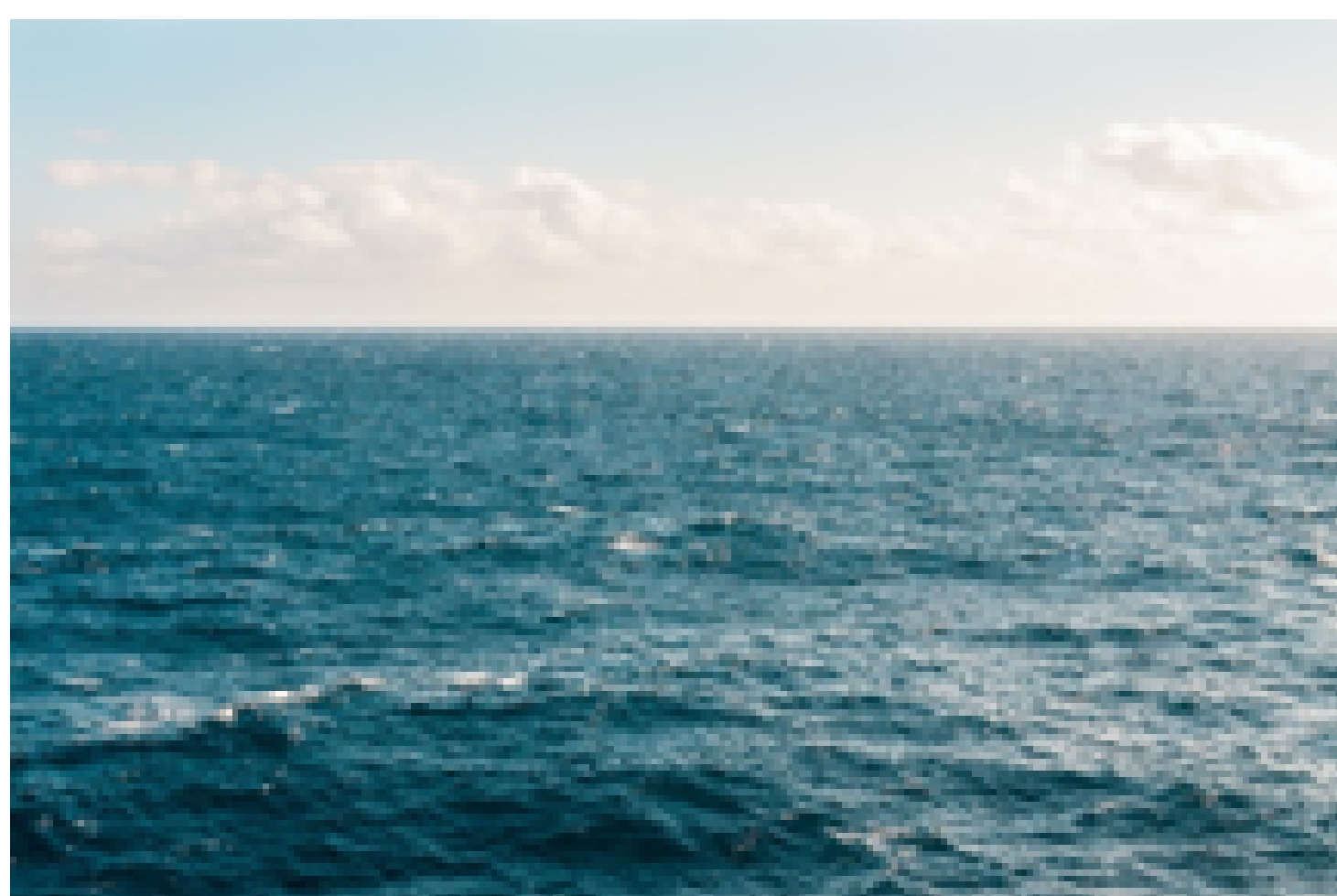
iii) River – A natural flowing watercourse, larger than a brook or stream.



iv) Estuary – A semi-enclosed body of water where freshwater meets the oceans saltwater.



v) Sea – A large expanse of seawater that is part of an ocean, partially enclosed by land



**20)**

Quintet – A musical group with 5 performers or instrumentalists

Quartet – A musical group with 4 performers or instrumentalists

## Test 13

1. I watched the parade go past
2. the television series was very interesting
3. Mum made us tidy our rooms
4. his teddy bear had been left on the train
5. they went to the theatre to see a play
6. the old house had been empty for twenty years
7. she drank coffee to keep her awake
8. we sat in the shade from the trees
9. the forest appeared dark and scary
10. she carried her groceries to the car

## **Antonyms: Write in the Word Test 1**

---

**Q1** **por**  
(temporary)

**Q2** **mis**  
(pessimistic)

**Q3** **nem**  
(enemy)

**Q4** **din**  
(ordinary)

**Q5** **usu**  
(unusual)

**Q6** **car**  
(scarce)

**Q7** **fut**  
(future)

**Q8** **pat**  
(impatience)

**Q9** **thl**  
(worthless)

**Q10** **igi**  
(rigid)

**Q11** **ien**  
(lenient)

**Q12** **end**  
(slender)

**Q13** **low**  
(allow)

**Q14** **rea**  
(increase)

**Q15** **mit**  
(permit)

## Cloze Wordbank Test 1

---

- Q1 B**  
*discovered*
- Q2 H**  
*visit*
- Q3 G**  
*studying*
- Q4 J**  
*information*
- Q5 D**  
*array*
- Q6 F**  
*survey*
- Q7 E**  
*entire*
- Q8 A**  
*scrutinised*
- Q9 I**  
*scientists*
- Q10 C**  
*presence*

## Cloze Wordbank Test 2

---

- Q1 E**  
*carved*
- Q2 H**  
*bedrock*
- Q3 C**  
*god*
- Q4 B**  
*symbolises*
- Q5 G**  
*mythology*
- Q6 F**  
*terrain*
- Q7 J**  
*shifting*
- Q8 D**  
*reveal*
- Q9 A**  
*entirety*
- Q10 I**  
*awe*



## **ASSESSMENT TEST 7**

### **Section 1 — Rotate the Figure**

- 1. A**  
*The figure has been rotated 90 degrees clockwise. In option B, there are too few pages. In options C and D, some of the pages have the wrong shading.*
- 2. D**  
*The figure has been rotated 180 degrees. In option A, the stripe is grey and there are two few wheels. In option B, the black stripe is in the wrong place. In option C, the wheels are white.*
- 3. C**  
*The figure has been rotated 270 degrees clockwise (or 90 degrees anticlockwise). In option A, the shapes are the wrong size. In option B, the shadings of the diamond and the hexagon have swapped. In option D, the shapes are different.*
- 4. D**  
*The figure has been rotated 270 degrees clockwise (or 90 degrees anticlockwise). Options A, B and C have the wrong shadings.*

### **Section 2 — Complete the Series**

- 1. A**  
*In each series square the black line moves up inside the egg shape.*
- 2. B**  
*The figure rotates 90 degrees clockwise in each series square.*

- 3. A**  
*There should be two blocks next to each other at the front of the figure, which rules out options B, C and D.*

- 4. D**  
*There should be four blocks visible from above, which rules out options A and B. The figure is three blocks wide, which rules out option C.*

### **Section 6 — Find the Figure Like the First Three**

- 1. B**  
*All teacups must have one handle. If all the cups are rotated so the saucer is at the bottom, the handle must be on the right-hand side.*
- 2. A**  
*All figures must have circles in front of each corner of the shape.*
- 3. D**  
*In all figures, the stalk must curve to the right and the flower must have four petals. Three petals must have the same shading, and the fourth must have a different shading.*
- 4. D**  
*All figures are identical apart from rotation.*
- 5. D**  
*All figures must have one grey shape and one white shape.*

- 3. D**  
*One dot is removed in each series square. The black shading inside the circle increases by one quarter in each series square.*

- 4. D**  
*In each series square, the black shape turns grey and the next shape to the right turns black.*

- 5. B**  
*In each series square, the black shape disappears and the shape above it turns black.*

### **Section 3 — Complete the Pair**

- 1. B**  
*The stick man on the right rotates 180 degrees.*
- 2. B**  
*The hatched parts of the figure turn black.*
- 3. B**  
*The figure reflects across and the top shape turns black.*
- 4. A**  
*The lines move outside the large shape and the large shape disappears. The small white shape moves down.*
- 5. E**  
*The grey shapes move to the top of the white shape. The two black dots move to the bottom of the figure, outside the white shape.*

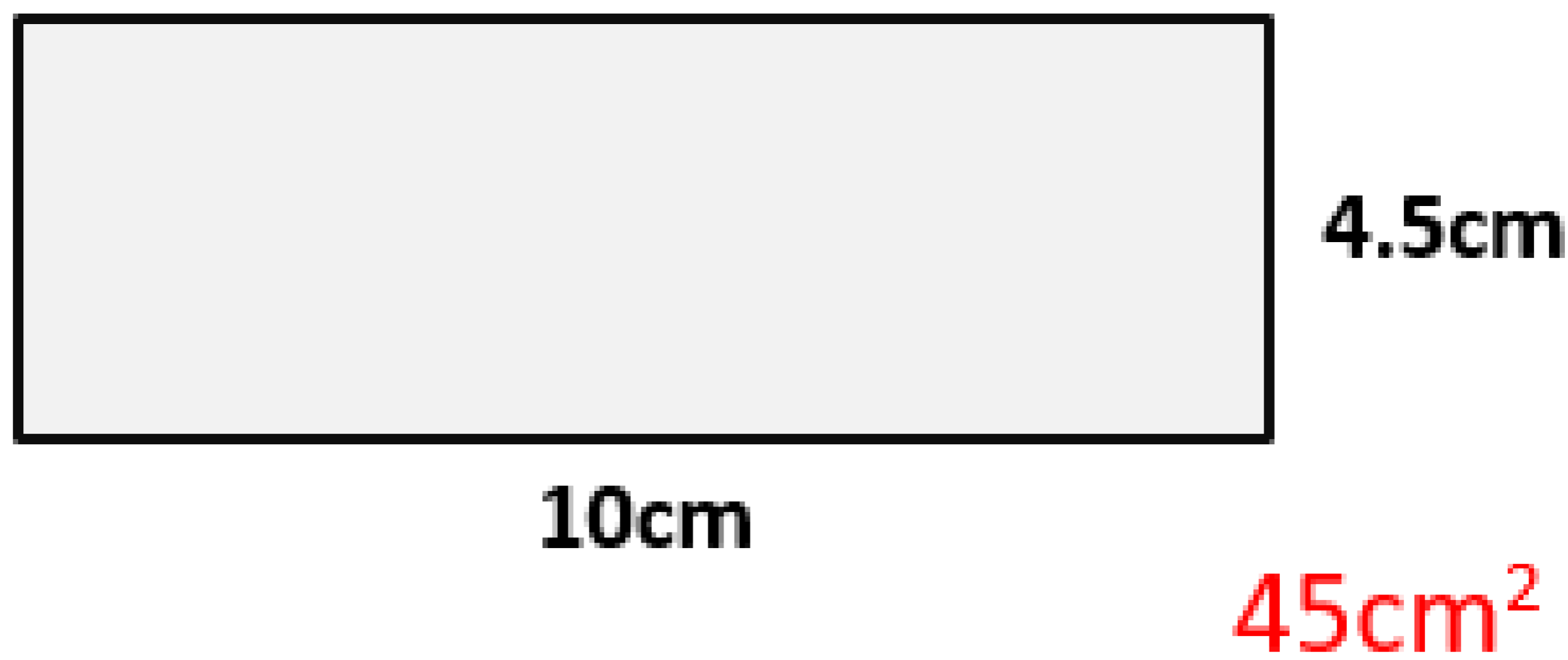
### **Section 4 — Odd One Out**

- 1. E**  
*All other figures have a rainbow with three stripes.*
- 2. E**  
*In all other figures, the arrow is pointing towards the square.*
- 3. A**  
*When all figures are rotated so the coloured stripe is at the bottom, the square is on the right-hand side in all other figures.*
- 4. D**  
*In all other figures, the cherry on the left is higher than the cherry on the right.*
- 5. B**  
*All other figures have five sides.*

### **Section 5 — Look at the Figure from the Top**

- 1. C**  
*There should be four blocks visible from above, which rules out options A and B. There is a line of three blocks along the back of the figure, which rules out option D.*
- 2. B**  
*There should be four blocks visible from above, which rules out options A and C. The figure is only two blocks wide, which rules out option D.*

1. Workout the area and perimeter of this shape



2. Workout  $\frac{3}{8}$  of 96

**36**

3. Workout  $\frac{4}{7}$  of 154

**88**

4. Workout  $\frac{2}{3}$  of 843

**281**

5. How much more than -12 is 7 ?

**19**

6. What is the median of 7, 11, 8 and 14

**9.5**

7.  $24.5 \times 1000 =$

**2450**

8. What is the LCM of 12 and 10 ?

**60**

9. What is the Highest Common Factor of 60 and 12

**12**

## Vocabulary 13

### Exercise A

1. Eject
2. Proceed
3. Infinite
4. Illuminate
5. Ointment
6. Trifling
7. Nowadays
8. Daring
9. Influential
10. Midst

### Exercise B

1. Daring
2. Trifling
3. Ointment
4. Illuminate
5. Proceed
6. Midst
7. Nowadays
8. Eject
9. Infinite
10. Influential