



**BROAD HORIZON**  
— TUITION —

# **11+ Tuition**

**Year 4**

**Week 29**

**ANSWERS**

1) Area = 17.5cm squared

Perimeter = 19cm

2) 205 (41 x 5)

3) 104 (26 x 4)

4) 3

5) 7%

6) 6

7) 0.008

8) 1944

9) 242

10) 81 (180 - 99)

11) 116 (180 - 64)

12) 1080

13) 360

14) 135

15) All the side lengths are different so the angles are all different.

16) 40%

17) 5.25 (21/4)

18) 4

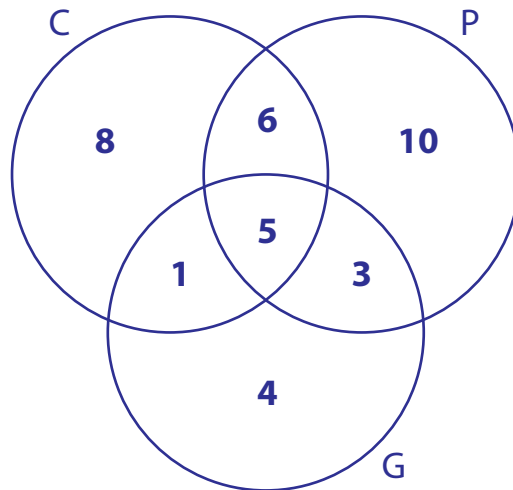
19) 25

**Venn Diagram - Without Universal Set**

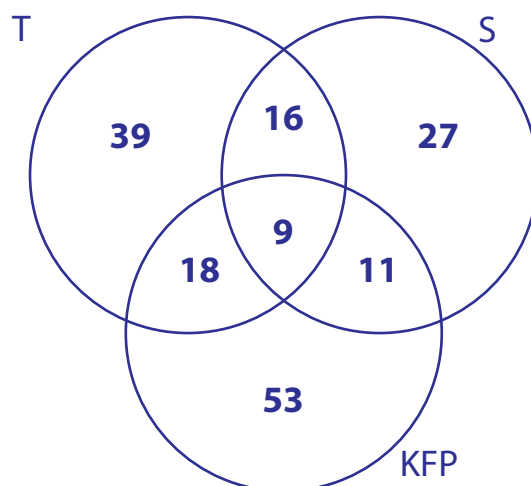
Standard: S1

Read each Venn diagram and answer the questions that follow.

- 1) The Venn diagram below displays the different fruits preferred by kindergarten students. They were asked to choose among the following fruits- Cranberries (C), Pineapples (P), and Grapes (G).



- a) How many children like pineapples? 24 children
- b) Find the number of children who like all three fruits. 5 children
- 2) The Venn diagram displays the results of the poll conducted among high school students to find their favorite television shows. Their choices were the Transformers (T), Sonic (S), and Kunk Fu Panda (KFP).



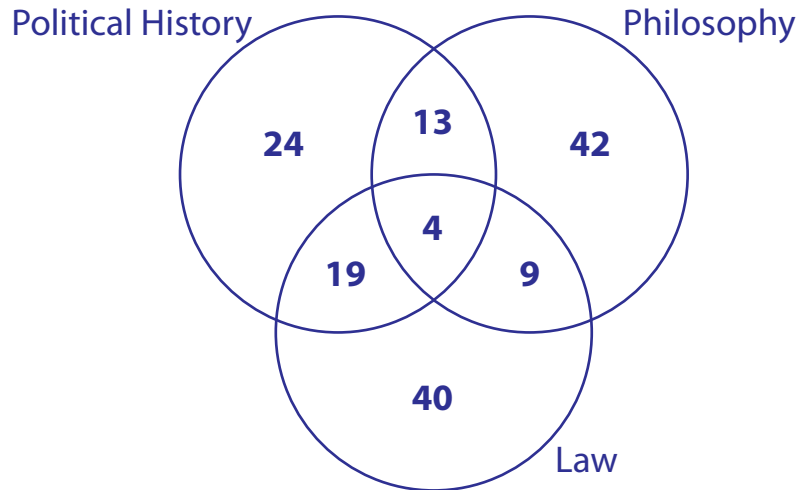
- a) How many high school students like to watch both 'Kunk Fu Panda' and 'Sonic'? 20 high school students
- b) Which television show is the second most popular among the students? Transformers liked by 82 students

**Venn Diagram - Without Universal Set**

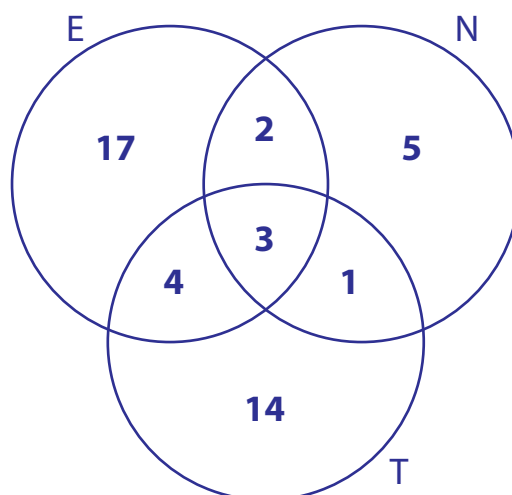
Standard: S2

Read each Venn diagram and answer the questions that follow.

- 1) Represented below in the Venn diagram are the number of research papers presented by University students on subjects of political history, philosophy, and law.



- a) Find the number of students who presented research papers on political history. 60 students
- b) How many research papers were based neither on political history nor on philosophy? 40 research papers were based on law
- 2) Dr. Allen, an ENT specialist treats patients with ear (E), nose (N), and throat (T) complaints. The Venn diagram below represents the number of patients he kept appointments with on a Monday morning.



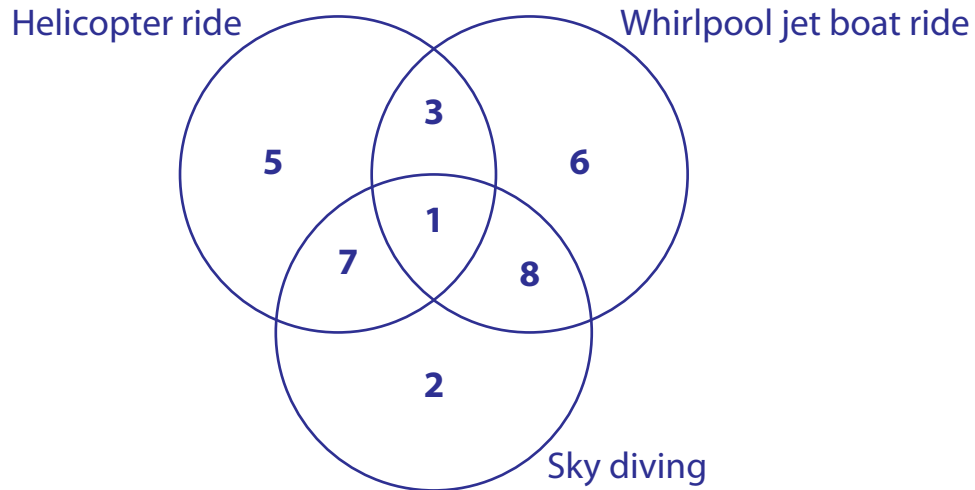
- a) How many patients with ear complaints visited Dr. Allen on Monday? 26 patients
- b) Find the number of patients who came in with nose and throat but not ear complaints. 1 patient

**Venn Diagram - Without Universal Set**

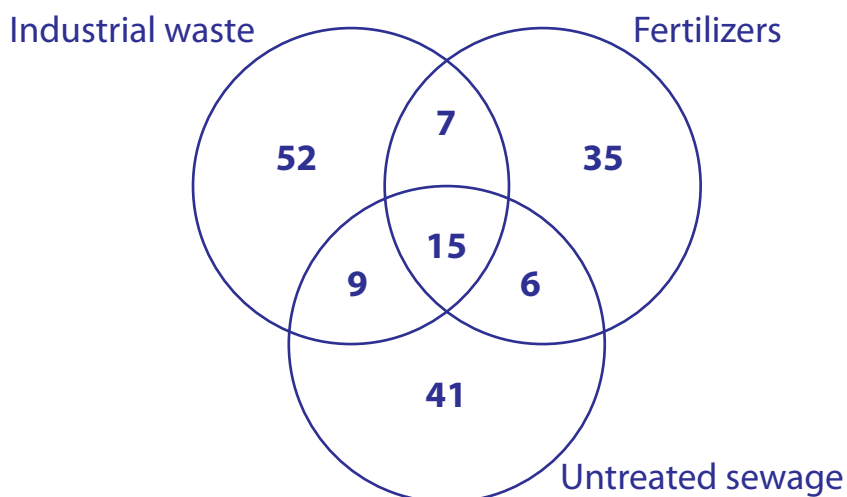
Standard: S3

Read each Venn diagram and answer the questions that follow.

- 1) The Venn diagram below represents a group of friends who chose one or more of the following rides at the Niagara falls - Helicopter ride, whirlpool jet boat ride, and sky diving.



- a) How many friends did not opt for sky diving? 14 friends
- b) Find the number of friends who wanted to take a helicopter ride. 16 friends
- 2) The Venn diagram below indicates the number of rivers polluted with industrial waste, fertilizers, and untreated sewage.



- a) How many rivers are polluted by fertilizers? 63 rivers
- b) Write the number of rivers affected by both industrial wastes and untreated sewage. 24 rivers

**15. D**

To find the minimum number of songs that can fit on the MP3 player, you need to imagine that each song is the longest time possible — 3 minutes.  
 $45 \div 3 = 15$ , so 15 songs is the minimum number that Grace can store.

**16. 3**

Work backwards through the calculation from 51 to find Ant's starting number. The last thing he did was to add 15, so subtract 15:  $51 - 15 = 36$ . He multiplied a number by itself to give 36, so find this number:  $6 \times 6 = 36$ , so the number Ant multiplied by itself was 6. He doubled the number to get 6, so halve 6 to find the starting number:  $6 \div 2 = 3$ .

**17. £0.42**

In the pack of 4 peppers, the cost per pepper is  $\pounds 1.80 \div 4 = \pounds 0.45$ . In the pack of 6 peppers, the cost per pepper is  $\pounds 2.52 \div 6$ .

Work this out using short division:  $6 \overline{) 2.52}$

So the cheapest amount you could pay per pepper is  $\pounds 0.42$ .

**18. D**

A: This can be true, e.g. there could be 30 tulips and 25 daffodils.

B: This can be true, e.g. there could be 34 daffodils and 21 tulips.

C: This can be true, e.g. there could be 28 daffodils and 27 tulips.

D: This cannot be true. The total number of bulbs is odd (55), so the sum of the number of daffodils and tulips must be an odd number added to an even number. The difference between an odd number and an even number is always odd. 8 is an even number, so this cannot be true.

E: This can be true, e.g. there could be 30 tulips and 25 daffodils.

**19. £8.20**

Each person is having one cupcake so Laura needs 20 cupcakes. This will cost  $20 \times 15p = 300p = \pounds 3$ . Each person is having half of a doughnut so Laura needs  $20 \div 2 = 10$  doughnuts.

This costs  $10 \times 52p = 520p = \pounds 5.20$

So, altogether Laura will spend

$\pounds 3 + \pounds 5.20 = \pounds 8.20$  on the cakes.

**20. 9**

Work out the cost of 15 doughnuts:

$15 \times \pounds 0.52 = \pounds 7.80$ . Subtract this from  $\pounds 10$  to work out how much left he has to spend on muffins.

$\pounds 10 - \pounds 7.80 = \pounds 2.20$ . Work out how many times

24p goes into 220p.  $220 \div 24 = 9$  remainder 4.

So he has enough money to buy 9 muffins.

## Section Four — Data Handling

### Pages 22-23

**1. E**

The highest score in the table is 43.

Nina got 43, so Nina scored the highest mark.

**2. B**

Kate scored 39, so a score exactly 20 less than this would be  $39 - 20 = 19$ . Paula scored 19.

**3. 24**

Nina scored 43 and Paula scored 19. So the difference between their marks is  $43 - 19 = 24$ .

**4. 13**

The test was out of 50 and George scored 37.

So George must have lost  $50 - 37 = 13$  marks.

**5. Train B**

Train B arrives in Banbridge at 12:00. The next train (Train C) doesn't arrive until 14:45. This would be too late if Robert needs to be in Banbridge by 12:15.

**6. Train C**

Counting from the departure time to the arrival time tells you how long each train takes. There are 2 hours from 12:00 to 14:00, and a further 45 minutes to 14:45. So train C takes 2 hours 45 minutes.

**7. Train B**

10:30 to 11:30 is 1 hour, plus 30 minutes to get to 12:00. So train B takes 1 hour 30 minutes.

**8. D**

There are 3 squid and 12 turtles,  $3 \times 4 = 12$  so there are 4 times as many turtles as squid.

**9. 21**

There are 25 eels and 4 otters,  $25 - 4 = 21$ .

**10. 128**

There are 43 crabs, 9 lobsters and 76 starfish. So  $43 + 9 + 76 = 128$ .

**11. A**

The faster the runner the lower their time.

Ahmed had the fastest time at 10.9 secs, followed by Louisa with 11.1 secs and then Alan with 12.8 secs, so Alan came third.

**12. B**

Alan finished in 12.8 secs, 2.5 secs after him would be  $12.8 + 2.5 = 15.3$  secs. This was Carol's time.

**13. 3.4 seconds**

Louisa finished in 11.1 secs and Marg finished in 14.5 secs, so  $14.5 - 11.1 = 3.4$  secs.

**14. A**

Archers who scored 16-20 points or 21-25 points scored more than 15 points in total.

13 archers scored 16-20 points and 5 archers scored 21-25 points, so  $13 + 5 = 18$  scored more than 15 — so A is true.

**15. C**

The highest frequency was 19 so the most frequent score was 11-15.

**16. 16**

Archers who scored 11 or more are in the score groups 11-15, 16-20 and 21-25, which is  $19 + 13 + 5 = 37$  people.

Archers who scored less than 11 are in the score groups 0-5 and 6-10, which is  $9 + 12 = 21$  people. So  $37 - 21 = 16$  people.

**17. 2**

From the table, Kyle spent  $\pounds 11.50$  on cakes in total. She spent  $\pounds 1.50$  on a Victoria sponge and  $\pounds 4.00$  on lemon drizzles, so she must have spent  $\pounds 11.50 - \pounds 4.00 - \pounds 1.50 = \pounds 6.00$  on fruit cakes. Fruit cakes cost  $\pounds 3.00$  each, so she must have ordered  $6.00 \div 3.00 = 2$  fruit cakes in total.

**18. £19.00**

The original total for the order was  $\pounds 11.50$ .

Two more fruit cake would cost  $2 \times \pounds 3.00 = \pounds 6.00$ , and an extra Victoria sponge costs  $\pounds 1.50$ .

The new total is  $\pounds 11.50 + \pounds 6.00 + \pounds 1.50 = \pounds 19$

### Pages 24-25

**1. P4**

The class with the fewest children will have the lowest bar — class P4.

**2. 25**

Each division on the vertical axis shows 2 children. The top of the bar for class P2 is  $2\frac{1}{2}$  divisions above 20.  $2\frac{1}{2}$  divisions is the same as 5 children ( $2 \times 2\frac{1}{2} = 5$ ). Class P2 has  $20 + 5 = 25$  children.

**3. P1 and P5**

Find the point on the vertical axis that shows 28 children, then look across to see which bars are taller than this point. P1 and P5 are the only classes with more than 28 children.

**4. 7**

Reading from the bar chart, class P3 has 28 children in it. Class P4 only has 21 children in it. So there are  $28 - 21 = 7$  more children in class P3 than in P4.

**5. 11**

Each symbol on the pictogram shows 2 people. There are  $5\frac{1}{2}$  symbols for tea.  $5 \times 2 = 10$  and  $\frac{1}{2} \times 2 = 1$ .  $10 + 1 = 11$  people prefer tea.

**6. 14 °C**

Find 11:00 on the horizontal axis and move straight up until you reach the graph line. At this point, move across to the vertical axis and read off the temperature ( $14\text{ }^\circ\text{C}$ ).

**7. 5 °C**

The lowest temperature will be the lowest point on the graph. The lowest temperature was recorded at 9:00. Reading off the graph, the temperature at 9:00 was  $5\text{ }^\circ\text{C}$ .

**8. B**

The biggest temperature rise happens between the two times on the graph that have the biggest vertical difference between them. This happens between 10:00 and 11:00 when the rise in temperature is  $14 - 8 = 6\text{ }^\circ\text{C}$ .

**9. C**

Read off the graph how many tourists chose each city: London = 30, Bristol = 16, Manchester = 24, Liverpool = 13, York = 19.

Then find the total number of people in the survey by adding all these values together:  $30 + 16 + 24 + 13 + 19 = 102$ .

**10. 28 m**

Reading off the graph, 1 floor is 2 m tall, so 14 floors would be  $2 \times 14 = 28$  m tall.

Alternatively, reading off the graph, 7 floors are 14 m tall.  $14 \div 7 = 2$ , so 14 floors must be  $2 \times 14 = 28$  m tall.

**11. 4 hours**

Find the total hours Sam and Sanjay worked out by adding together the number of hours they worked out each week.

Sam worked out for  $4 + 8 + 10 = 22$  hours.

Sanjay worked out for  $5 + 4 + 9 = 18$  hours.

$22 - 18 = 4$  so Sam worked out for 4 hours more than Sanjay.

**12. B**

Each school played 32 matches. From the pie charts, Eastwick School drew half of their matches.  $32 \div 2 = 16$ , so Eastwick School played 16 drawn matches and statement B is true.

**13. 9**

Each symbol on the pictogram shows 4 CDs. So each  $\frac{1}{2}$  symbol shows 2 CDs, and each  $\frac{1}{4}$  symbol shows 1 CD.

The Victories sold  $4\frac{1}{2}$  symbols =  $4 \times 4$  CDs +  $2$  CDs = 18 CDs.

The Moofs sold  $2\frac{1}{4}$  symbols,

$2 \times 4$  CDs +  $1$  CD = 9 CDs.

$18 - 9 = 9$ , so the Victories sold 9 more CDs than the Moofs.

**14. 40**

2 bedroom and 3 bedroom houses make up all the houses with more than one bedroom.

The right angle signs in the sections for

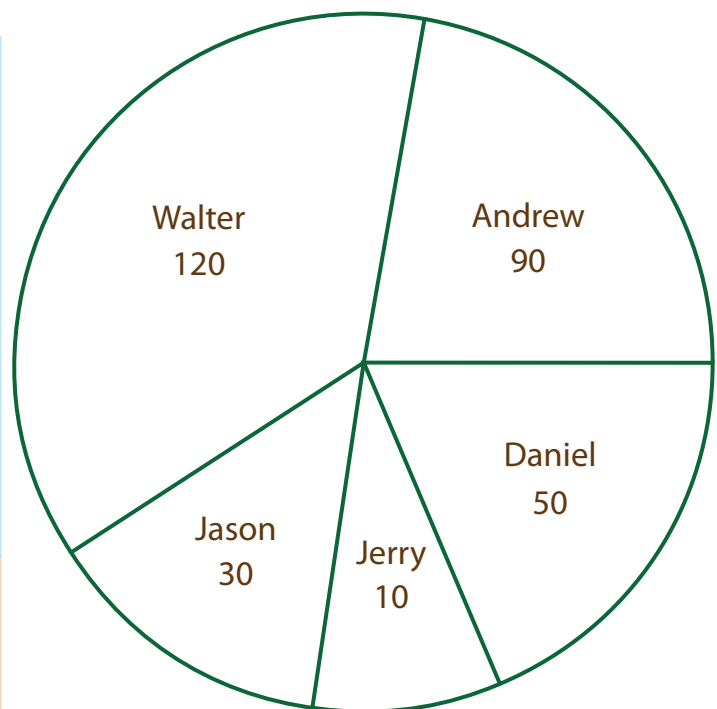
2 bedroom and 3 bedroom houses mean that they each take up  $\frac{1}{4}$  of the pie chart. You can work that out because there are 4 right angles in a circle, so 1 right angle would be  $\frac{1}{4}$  of a circle.

This means that 2 and 3 bedroom houses take up

$\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$  of the pie chart, so half of the people live in a house with more than 1 bedroom. The total number of people is 80, so  $80 \div 2 = 40$  people live in houses with more than 1 bedroom.

**Answer Key****Pie Graph - Farm Animals**

The pie graph shows the information on the number of farm animals owned by some farm owners. Use the pie graph to answer the questions.



- What is the percentage of Jason's farm animals? 10 %
- What fraction of animals does Andrew have?  $\frac{3}{10}$
- Who has the most number of animals? Walter
- What is the total percent of animals owned by Jason and Walter? 50 %
- How many animals are owned by Daniel? 50

5. D

Line 20 states that the nursery couldn't be conducted "more correctly", suggesting that Nana is very competent.

6. C

In this context, "charges" means 'someone who is committed to someone's care'. Therefore Nana's charges are the Darling children.

7. C

"no patience" means to have 'no sympathy for', which suggests that sometimes Nana has no sympathy for the children because she knows when they are faking illnesses.

8. A

Line 11 states that Nana's kennel is located in the nursery; since "nursery" is another world for 'a child's bedroom', Nana sleeps in the same room as the children.

9. D

Lines 9 and 10 refer to Nana bathing the children, lines 15-16 refer to her taking them to school, and lines 11-13 refer to her looking after the children when they are sick. Therefore the answer is all of the above.

10. A

Line 21 mentions that Mr. Darling worries that the neighbours "talked". Line 20 states that Nana runs the nursery correctly, so it must be the fact that Nana is a dog that worries Mr. Darling.

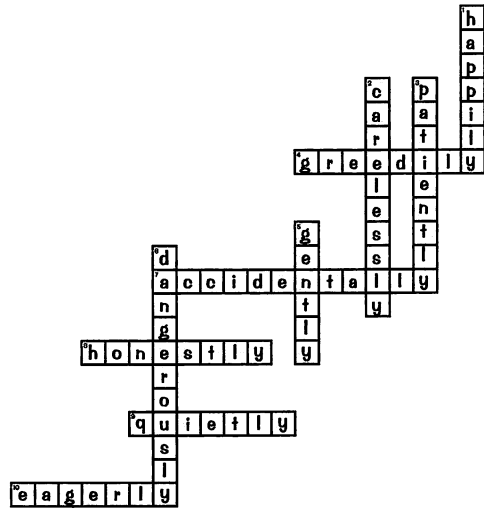
11. B

"engage" someone in this context means 'to hire'. The Darlings have hired Nana as their nurse.

12. C

"sedately" means 'calmly'.

Puzzles 3 — page 32



Test 8 — pages 33-36

1. D

Lines 1-2 state that writing a novel is like "a builder trying to build a house".

2. A

Line 3 states that the writer only wishes to finish a novel even if it "fell apart at the end".

3. B

Line 5 states the narrator's parents told her writing "wasn't a stable career". This suggests that they are practical and realistic.

4. B

In line 6, the writer says her book is "nonexistent" which suggests that she is not "good enough" to prove her parents wrong.

5. B

Lines 9-10 explain how the writer takes inspiration from "people walking the streets", including their "individual quirks" and differences.

6. C

Line 12 states that Dickens is a master of "turning the mundane into the fascinating". This suggests that she admires how Dickens is able to make any anything appear interesting.

7. D

In line 15, the writer says that "true stories are the most far-fetched". This suggests that even though the biographies of rock stars are based on the truth, they are almost unbelievable.

8. A

Lines 8-9 state that the main problem the writer has is having "an idea good enough to sustain an entire novel".

9. D

Line 20 says that "the best authors merge" style and substance in their books.

10. C

Line 19 says that books with a "great plot" sometimes "fly off the shelves", suggesting that they sell faster than well-written stories.

11. A

"sustain" means 'support'.

12. D

"alchemy" means 'the process of changing something basic into an object of value'.

Test 9 — pages 37-40

1. C

Lines 1-2 state that coffee is "big business" because "around two billion cups" of coffee are consumed each day.

2. A

Lines 2-3 state that Brazil is the world leader when it comes to the "quantity of coffee produced".

3. D

Lines 3-4 tell us that the USA "imports the most coffee"; therefore Finland must import less coffee than America.

4. A

Line 9 states that the berries contain seeds. Therefore, as a peaberry is a seed, a peaberry is found inside a berry.

5. D

A jury is a group of people who decide something; if they are "still out" it means they have not come to a decision. Therefore, coffee drinkers haven't decided if they prefer the taste of regular coffee or peaberry.

**6. D**

Line 14 states that in the dry method the berries are "left to dry outside for up to four weeks". This is better in drier countries as the berries require dry heat.

**7. A**

Lines 15-16 state that the wet method "requires machinery to pulp, ferment and wash the berries", and so requires more equipment than the dry method.

**8. B**

Lines 19-20 explain that the beans are kept in constant motion during roasting "to avoid scorching".

**9. D**

Lines 22-23 state that instant coffee is quicker to brew than the other types of coffee.

**10. B**

Line 18 mentions that the coffee bean develops a dark brown colour during roasting. Line 9 mentions that the berries take around "nine months to ripen". Line 10 mentions that a peaberry develops in around "5% of cases". However, which method of processing gives the most flavour is not mentioned.

**11. A**

"connoisseurs" can mean 'experts'.

**12. D**

"distinctive" means 'recognisable'.

**Test 10 — pages 41-44**

**1. A**

Line 1 describes the sweet shop as "quaint". This means that it has an old-fashioned charm.

**2. D**

Line 1 states that Brian sees a couple picnicking by a stream; line 4 states that he has seen "grey tower blocks" (high-rise buildings); and congested roads (congested means 'clogged with traffic'). However, the text does not mention a lake.

**3. A**

Line 4 states that Brian is travelling north. This suggests he must live south of the Yorkshire Dales.

**4. C**

Line 10 states that Lucy initially thought her move to the countryside "had been a mistake", but lines 10-13 suggest that she is beginning to enjoy various aspects of country life.

**5. C**

Lines 11-12 state that Lucy enjoys the country air "above all".

**6. D**

Line 15 states that Brian believes "rural life was no match for city living". Therefore, he does not secretly want to move to the countryside.

**7. C**

A "city slicker" is someone who is used to an urban lifestyle. "reformed" means 'changed', so Lucy has changed her city way of life.

**8. B**

Lines 8-9 state that Lucy enjoyed going for meals at "gourmet restaurants". "Gourmet" means 'specialising in high-quality food'.

**9. B**

In line 19, Brian hopes that the trainers he has packed are suitable, so he has definitely packed his trainers.

**10. D**

Line 7 states that Lucy moved to Yorkshire "a couple of months ago". Line 10 states that "winter turned into spring". Therefore, Lucy moved to Yorkshire in the winter. Line 18 states that Brian left his luggage in the rack above his seat. Lines 21-22 state that Lucy's parents visited her last week. However, the text does not mention why Lucy moved to the countryside.

**11. B**

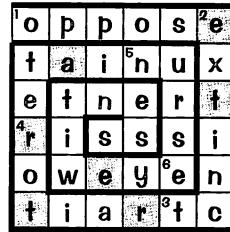
"fascinated" means 'mesmerised'.

**12. D**

"vibrant" means 'dynamic'.

**Puzzles 4 — page 45**

**Word Snail**



Hidden Word: retreat

**Cube Words**

*eagle glance legal change*

Nine letter word: challenge

**Test 11 — pages 46-49**

**1. B**

Line 15 states that it is a "quiet", moonlit night, and line 24 states that it is a starry night. Therefore it is clear and still.

**2. D**

Line 4 states that the horse is champing the grass of the "forest's ferny floor".

**3. A**

In line 3, the house remains in "silence", despite the Traveller knocking on the door. In line 13, the occupants of the house are described as "phantom listeners".

**4. C**

Line 9 states that "no one descended to the Traveller" after the second knock on the door.

**5. B**

Line 12 describes the Traveller as being "perplexed", which is another word for 'confused'.

**6. B**

Lines 21-22 mention how the Traveller feels the strange presence of the listeners, as though something can hear him.

**7. D**

Line 15 states that they "stood listening" to the voice of the Traveller.

**8. B**

'crop' can mean 'to bite the top off a plant' and "turf" refers to the grass. Therefore, the horse is eating the grass.

6. **tragedy** — 'This **tragedy** became known as the Great Fire of London.'
7. **catch** — 'the professor would **catch** a train to work in the morning'
8. **evening** — 'in the **evening** Hachiko would go to the station'
9. **master** — 'wait for his **master** to return.'
10. **journey** — 'he never made the return **journey**'
11. **waited** — 'Hachiko **waited** at the station for the professor.'
12. **loyalty** — 'Hachiko is still remembered in Japan for his **loyalty**.'
13. **found** — 'Alice opened the door and **found** that it led into a small passage'
14. **knelt** — 'she **knelt** down and looked along the passage'
15. **longed** — 'How she **longed** to get out of that dark hall'
16. **wander** — '**wander** about among those beds of bright flowers'
17. **doorway** — 'she could not even get her head through the **doorway**'
18. **shoulders** — 'it would be of very little use without my **shoulders**.'

### PAGE 23 — FINDING HIDDEN FACTS

1. **Lisa** — Lisa goes riding three times a week: on Saturday, Sunday and Wednesday.
2. **William** — William is only going on one holiday: cycling with Mark.
3. **Haj** — Haj likes three toppings: raisins, lemon curd and sausages.
4. **Edward** — Edward only has two activities planned: swimming and shopping.

### PAGES 24 & 25 — MULTIPLE-STATEMENT QUESTIONS — LOGIC

1. **D** — Max runs faster than Charlotte, and Ahmed is slower than Charlotte, so Max must run faster than Ahmed.
2. **B** — Josh's house has half as many bedrooms as Karl's house, so Karl's house can't have 5 bedrooms because Josh's can't have 2.5 rooms.
3. **D** — Jamie was born before Georgia, Laura and Rohan, so he's the oldest.
4. **D** — July was 7 degrees hotter than June, and August was only 2 degrees hotter than June, so July can't have been cooler than August.
5. **B** — Patrick's bus arrived at 7.15, Hannah's bus arrived 10 minutes later at 7.25, and Jacob's bus arrived 15 minutes after Hannah's, so Jacob's bus arrived at 7.40.
6. **C** — Lucy buys four banners for £3 each, so she spends a total of £12. Lily spends half as much as Lucy, so she spends £6. Grace and Dan spend £20 between them, and Dan spends £6.50, so Grace must spend £13.50, which is £7.50 more than Lily.

### PAGE 26 — UNDERSTANDING THE LANGUAGE IN THE TEXT

1. **C** — The duvet is described as a cave to show that it is in the same shape as a cave.
2. **C** — "hissed" means 'to talk quietly' — Haji is trying not to disturb whatever he thinks he has seen beneath his desk.
3. **A** — Describing Haji's heartbeat as a drum thumping suggests it was loud because a drumbeat is often loud.
4. **A** — The image of the curtains "whispering" suggests they're moving gently.
5. **B** — The word "growl" suggests that the creature is threatening.

### PAGES 27-29 — MIXED COMPREHENSION QUESTIONS

1. **D** — In the passage it says that "many parts have fallen into disrepair".
2. **C** — In the passage it says that the wall "marked the northernmost boundary of the Roman Empire".
3. **B** — In the passage it says that forts had "temples, granaries, bath houses and even hospitals", but it doesn't mention tax offices.
4. **C** — In the passage it says there were "occasional attacks from the north".
5. **D** — In the passage it says that "Antoninus believed that it would help the Romans conquer Scotland".
6. **D** — In the passage it says that the wall might have been used "to control immigration", not to increase it.
7. **A** — In the passage it says Hadrian's Wall is "the longest wall in Europe", not the longest in the world.
8. **C** — 'power' is closest in meaning to "might". Both words mean 'strength'.
9. **A** — 'withdrew' is closest in meaning to "retreated". Both words mean 'moved back'.
10. **D** — "his efforts were fruitless" means that he didn't achieve what he wanted to, so he was 'unsuccessful'.

### PAGES 30-35 — ASSESSMENT TEST 1

1. **D** — In the passage it says that Gary Dahl was "an advertising executive", which means that he worked in advertising.
2. **B** — In the passage it says that "after 1975, sales dried up".
3. **C** — In the passage it says that Pet Rocks don't need "feeding, walking or bathing", and won't incur "any expensive vet bills".
4. **D** — The instruction booklet didn't tell you how to make a bed of straw.
5. **A** — In the passage it says "Pet Rocks sold well during the Christmas period", and "after 1975, sales dried up", so they sold well in December 1975.
6. **C** — In the passage it says "they were destined to be a fad". This means that people lost interest in them.
7. **D** — He came up with an idea that people wouldn't expect to do well but he made a lot of money from it.

- Q3 G**  
survive
- Q4 I**  
captured
- Q5 C**  
escape
- Q6 F**  
captors
- Q7 D**  
briefly
- Q8 A**  
dense
- Q9 K**  
managed
- Q10 O**  
rescued

### Cloze Wordbank Test 24

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- Q1 H**  
communities
- Q2 E**  
identified
- Q3 G**  
necessary
- Q4 B**  
information
- Q5 I**  
original
- Q6 A**  
surname
- Q7 D**  
introduce
- Q8 F**  
passed
- Q9 J**  
adopted
- Q10 C**  
hereditary

### Cloze Wordbank Test 25

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- Q1 H**  
invented
- Q2 D**  
accident
- Q3 G**  
attended
- Q4 E**  
frustrating
- Q5 B**  
listening
- Q6 J**  
code

- Q7 A**  
raised
- Q8 C**  
represented
- Q9 I**  
fingertips
- Q10 F**  
signs

### Cloze Wordbank Test 26

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- Q1 E**  
people
- Q2 G**  
region
- Q3 A**  
marker
- Q4 H**  
landmarks
- Q5 F**  
typically
- Q6 C**  
person
- Q7 J**  
stretched
- Q8 B**  
carefully
- Q9 I**  
Canada
- Q10 D**  
featured

### Cloze Wordbank Test 27

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- Q1 D**  
goddess
- Q2 E**  
believed
- Q3 G**  
homes
- Q4 H**  
design
- Q5 C**  
celebration
- Q6 I**  
symbols
- Q7 J**  
infinity
- Q8 A**  
lotus
- Q9 F**  
drawn
- Q10 B**  
indicate

## Section 3 — 3D Rotation

1. B

Shape B has been rotated 90 degrees clockwise in the plane of the page.

2. E

Shape E has been rotated 90 degrees away from you top-to-bottom.

3. C

Shape C has been rotated 90 degrees right-to-left.

4. D

Shape D has been rotated 90 degrees clockwise in the plane of the page.

5. E

Shape E has been rotated 90 degrees right-to-left.

6. B

Shape B has been rotated 90 degrees right-to-left.

7. D

Shape D has been rotated 90 degrees clockwise in the plane of the page.

8. A

Shape A has been rotated 90 degrees anticlockwise in the plane of the page. It has then been rotated 90 degrees away from you top-to-bottom.

9. C

Shape C has been rotated 90 degrees away from you top-to-bottom.

10. F

Shape F has been rotated 90 degrees right-to-left.

## Section 4 — Odd One Out

1. B

All other figures have a solid outer line and a dashed inner line.

2. E

In all other figures, the black shapes are smaller versions of the outer shape.

3. D

All other figures are identical apart from rotation (the circles in D are in different places).

4. B

In all other figures, the shape on the right is a 45 degree clockwise rotation of the shape on the left.

5. C

In all other figures, the feet are on the straight side of the shield shape.

6. E

In all other figures, the diamond is on the left of the triangle.

7. A

In all other figures, the white shape is at the front.

8. B

In all other figures, the star is next to the flagpole.

## Section 5 — 2D Views of 3D Shapes

1. D

There are four blocks visible from above, which rules out options A and C. There are three blocks at the front of the shape, which rules out option B.

2. C

There are four blocks visible from above, which rules out options A and B. There are two blocks at the front of the shape, which rules out option D.

3. B

There are five blocks visible from above, which rules out options A and C. There are three blocks in a row at the back of the shape, which rules out option D.

4. A

There are five blocks visible from above, which rules out options C and D. There are two blocks at the back of the shape, which rules out option B.

5. C

There are six blocks visible from above, which rules out options A and B. There is only one block on the right-hand side of the shape, which rules out option D.

6. D

There are five blocks visible from above, which rules out options B and C. There are three blocks at the front of the shape, which rules out option A.

7. D

There are five blocks visible from above, which rules out options B and C. There is one block at the front of the shape, which rules out option A.

8. C

There are five blocks visible from above, which rules out options A and B. There are two blocks at the front of the shape (with a gap between them), which rules out option D.

## ASSESSMENT TEST 8

### Section 1 — Reflect the Figure

1. C

Option A is a 90 degree anticlockwise rotation. Option B is a downwards reflection. In option D, the black shape has become white.

2. D

Option A is the wrong shape. Option B is a downwards reflection. Option C is a 180 degree rotation.

3. B

Option A is a downwards reflection. Option C is a rotation (and the stripes have changed). Option D is a reflection but the black and grey shading has swapped.

4. C

In option A, the triangles are reflected but the parallel lines are positioned incorrectly. Options B and D are the wrong shape.

5. **B**

Option A is a downwards reflection.  
Options C and D are the wrong shape.

6. **A**

In option B, the arrow has been rotated 90 degrees anticlockwise and the star has moved. Option C is a reflection across but the star has also been reflected downwards. In option D, the arrow has been rotated 180 degrees and the star has then rotated 180 degrees.

7. **D**

Option A is a reflection but the white circle is in front of the hatched circle. Option B is not a reflection and the white and hatched circles have swapped positions. Option C is a downwards reflection,

8. **C**

Option A is a 180 degree rotation. Option B has the wrong shading and is not a reflection. In option D, the individual shapes have been reflected, but not the figure as a whole.

9. **D**

Option A has not been reflected and the shading has swapped. Option B is a downwards reflection. In option C the grey triangle has been reflected but not the white triangle.

10. **B**

Option A is a downwards reflection. In option C the arrowheads are incorrect. Option D is a 180 degree rotation.

## Section 2 — Complete the Square Grid

1. **B**

Working from left to right, just the top shape is shaded grey, then both shapes are shaded grey, and then just the bottom shape is shaded grey.

2. **B**

The shapes in each column are the same and the positions of the lines through the shapes stay the same in each row.

3. **E**

Each figure only appears once in each row and column.

4. **D**

Working from left to right, the figure rotates 90 degrees clockwise. The circle alternates between black and white.

5. **C**

In each row, the middle grid square is made up of the bottom half of the first grid square placed under the bottom half of the third grid square.

6. **C**

In each row, all three shapes are the same. In each grid square one of the layers is shaded black. Each layer of the shape is only shaded black once in each row and column.

7. **D**

The large grey shape stays the same across each row. The black triangle stays in the same position in each column.

8. **D**

Working from left to right, the middle grid square in each row is made up of the shape from the third grid square on top of the shape from the first grid square. The two shapes swap shadings.

## Section 3 — Cubes and Nets

1. **B**

Option A is ruled out because the face with the black triangle and the face with the white triangle must be on opposite sides. Option C is ruled out because the net doesn't have a face with a five-sided shape on it. Option D is ruled out because the net doesn't have a face with a black square on it.

2. **D**

Option A is ruled out because the net doesn't have a face with a black triangle on it. Option B is ruled out because the face with the hexagon and the face with the black stripe must be on opposite sides. Option C is ruled out because the net doesn't have a face with a black circle on it.

3. **C**

Option A is ruled out because the face with the grey square and the face with the parallel lines must be on opposite sides. Option B is ruled out because the net doesn't have a face with a 'Z' on it. Option D is ruled out because the net doesn't have a face with double parallel lines crossing in the centre on it.

4. **C**

Option A is ruled out because the net doesn't have a grey face. Option B is ruled out because the grey face with the white circle and the black face must be on opposite sides. Option D is ruled out because the net doesn't have a face with four grey circles on it.

5. **A**

Option B is ruled out because the net doesn't have a face with one triangle on it. Option C is ruled out because the face with the black rectangle and the face with the white crown must be on opposite sides. Option D is ruled out because the face with the black crown and the face with the white arch must be on opposite sides.

6. **C**

Option A is ruled out because the net doesn't have a face with a six pointed star on it. Option B is ruled out because the face with the black star and the face with the circle shaded in quarters must be on opposite sides. Option D is ruled out because the face with the three lines and the face with the white ellipse must be on opposite sides.

7. **A**

Option B is ruled out because the top of the 'V' must be next to the face with the stripes. Option C is ruled out because the face with the two joined white triangles and the face with the black stripe must be on opposite sides. Option D is ruled out because the striped face and the face with the white triangle inside the grey triangle must be on opposite sides.

**8. D**

Option A is ruled out because the face with the large white arrow and the face with the white triangle must be on opposite sides. Option B is ruled out because the face with the '4' and the face with the grey circle must be on opposite sides. Option C is ruled out because the line arrow should point towards the '4'.

**Section 4 — Complete the Pair**

**1. B**

The small shape becomes hatched, while the large shape becomes white.

**2. B**

The shape becomes a star with the same number of points as the shape had corners. The corners are marked with black circles which stay in the same position.

**3. C**

The figure is reflected and the shading of the shape changes from white to grey or grey to white.

**4. D**

The order of the shapes is reversed.

**5. B**

Half of the small circles move inside of the large circle. The other half disappear.

**6. D**

The grey shape gets bigger and goes to the back. The white shape gets smaller and goes in front of the centre of the grey shape.

**7. B**

The short arrows become long and the long arrows become short. The whole figure is reflected downwards.

**8. B**

The figure divides in half along the line (which disappears) and the left-hand half turns black. The white half rotates 90 degrees anticlockwise and moves behind the black half.

**Section 5 — Changing Bugs**

**1. D**

The bug's body rotates 180 degrees.

**2. B**

Each different shading on the bug's body moves down one segment. (When a shading reaches the bottom, it starts again from the top.)

**3. B**

The shape of the bug's body becomes the shape of the bug's head and the shape of the bug's head becomes the shape of the bug's body.

**4. C**

The bug gains an extra pair of legs. The grey segments become white and the white segments become grey.

**5. A**

Each of the small shapes on the wings rotates 90 degrees clockwise. Each antenna gains a black 'hat'.

**6. C**

The bug's body reflects across.  
The bug's head moves behind its body.

**7. B**

The bug's body changes to a star with the same number of points as the number of sides of the shape. Each of the wings gains an extra stripe.

**8. B**

Each of the small shapes on the bug's body gains an extra side. All of the parts that are shaded white on the bug's body become black and all the parts shaded black become white.

**9. B**

The bug's body rotates 90 degrees and its legs reflect downwards.

**10. B**

The shapes at the end of the bug's antennae change from triangles to squares. The shadings on the bug's body stripes each move up one stripe. (When a shading reaches the top, it starts again from the bottom.)

- 1) 89 (180 - 91)
- 2) 72 (180 - 108)
- 3) 720
- 4) 360
- 5) 140 (1260/9)
- 6) All the side lengths are different so the angles are different.
- 7) 60%
- 8) 11
- 9) 7
- 10) 124