BROAD HORIZON
TUITION

11+ Tuition

Year 5

Week 2 – Lesson

Answers

Contents

Starter Task – Quick Revision

STARTER TASK ANSWERS

MULTIPLICATION:

1) 483 (first row)
3220 (second)
3703 Answer

2) 1392
4640
6032

3) 4912
6140
11052

4) 4845
87210
84055

DIVISION:

1) 366

2) 1861

3) 1154

ROUNDING:

1) 25.63

2) 9.80

3) 100.57

Long Multiplication Practice - 3 Digits x 2 Digits **Answers**

1.				
		1	6	1
x			2	3
		4	**8**	**3**
	3	**2**	**2**	**0**
	3	**7**	**0**	**3**

2.				
		2	3	2
x			2	6
	1	**3**	**9**	**2**
	4	**6**	**4**	**0**
	6	**0**	**3**	**2**

3.				
		6	1	4
x			1	8
	4	**9**	**1**	**2**
	6	**1**	**4**	**0**
1	**1**	**0**	**5**	**2**

4.				
		9	6	9
x			9	5
	4	**8**	**4**	**5**
8	**7**	**2**	**1**	**0**
9	**2**	**0**	**5**	**5**

5.				
		7	4	0
x			9	6
	4	**4**	**4**	**0**
6	**6**	**6**	**0**	**0**
7	**1**	**0**	**4**	**0**

6.				
		3	6	2
x			5	8
	2	**8**	**9**	**6**
1	**8**	**1**	**0**	**0**
2	**0**	**9**	**9**	**6**

7.				
		3	0	5
x			7	1
		3	**0**	**5**
2	**1**	**3**	**5**	**0**
2	**1**	**6**	**5**	**5**

8.				
		3	7	0
x			6	4
	1	**4**	**8**	**0**
2	**2**	**2**	**0**	**0**
2	**3**	**6**	**8**	**0**

9.				
		5	8	4
x			1	5
	2	**9**	**2**	**0**
	5	**8**	**4**	**0**
	8	**7**	**6**	**0**

10.				
		8	5	1
x			8	9
	7	**6**	**5**	**9**
6	**8**	**0**	**8**	**0**
7	**5**	**7**	**3**	**9**

11.				
		7	4	9
x			9	8
	5	**9**	**9**	**2**
6	**7**	**4**	**1**	**0**
7	**3**	**4**	**0**	**2**

12.				
		4	8	2
x			2	3
	1	**4**	**4**	**6**
	9	**6**	**4**	**0**
1	**1**	**0**	**8**	**6**

13.				
		6	4	6
x			1	0
				0
	6	**4**	**6**	**0**
	6	**4**	**6**	**0**

14.				
		7	0	9
x			1	7
	4	**9**	**6**	**3**
	7	**0**	**9**	**0**
1	**2**	**0**	**5**	**3**

15.				
		9	1	4
x			5	7
	6	**3**	**9**	**8**
4	**5**	**7**	**0**	**0**
5	**2**	**0**	**9**	**8**

16.				
		7	1	8
x			4	5
	3	**5**	**9**	**0**
2	**8**	**7**	**2**	**0**
3	**2**	**3**	**1**	**0**

Long Multiplication Practice – 4 Digits x 2 Digits: Answers

question	answer			
	1. 2 1 9 0 x 6 9 **1 9 7 1 0** **1 3 1 4 0 0** **1 5 1 1 1 0**	**2.** 1 3 4 2 x 5 2 **2 6 8 4** **6 7 1 0 0** **6 9 7 8 4**	**3.** 1 5 2 1 x 7 3 **4 5 6 3** **1 0 6 4 7 0** **1 1 1 0 3 3**	**4.** 1 1 4 3 x 3 4 **4 5 7 2** **3 4 2 9 0** **3 8 8 6 2**
	5. 2 4 6 8 x 2 7 **1 7 2 7 6** **4 9 3 6 0** **6 6 6 3 6**	**6.** 1 8 9 5 x 4 6 **1 1 3 7 0** **7 5 8 0 0** **8 7 1 7 0**	**7.** 1 4 6 2 x 7 0 **0** **1 0 2 3 4 0** **1 0 2 3 4 0**	**8.** 1 2 3 9 x 1 9 **1 1 1 5 1** **1 2 3 9 0** **2 3 5 4 1**
	9. 1 3 5 9 x 7 7 **9 5 1 3** **9 5 1 3 0** **1 0 4 6 4 3**	**10.** 2 1 2 7 x 4 8 **1 7 0 1 6** **8 5 0 8 0** **1 0 2 0 9 6**	**11.** 1 9 2 0 x 1 2 **3 8 4 0** **1 9 2 0 0** **2 3 0 4 0**	**12.** 2 2 9 1 x 4 0 **0** **9 1 6 4 0** **9 1 6 4 0**
	13. 2 3 1 6 x 9 0 **0** **2 0 8 4 4 0** **2 0 8 4 4 0**	**14.** 1 0 7 4 x 1 9 **9 6 6 6** **1 0 7 4 0** **2 0 4 0 6**	**15.** 2 1 9 6 x 4 5 **1 0 9 8 0** **8 7 8 4 0** **9 8 8 2 0**	**16.** 1 8 8 6 x 1 7 **1 3 2 0 2** **1 8 8 6 0** **3 2 0 6 2**

1) $7 \overline{)2,562} = 366$

2) $5 \overline{)9,305} = 1,861$

3) $4 \overline{)4,616} = 1,154$

4) $9 \overline{)3,807} = 423$

5) $3 \overline{)6,291} = 2,097$

6) $6 \overline{)1,128} = 188$

7) $2 \overline{)8,254} = 4,127$

8) $8 \overline{)5,920} = 740$

9) $7 \overline{)7,483} = 1,069$

Starter task – Vocabulary

Exercise C

1. Miserly
2. Deface
3. Bewilder
4. Entangle
5. Monopoly
6. Novice
7. Ivory
8. Irritate
9. Auditorium
10. Alliance

Maths

Short Maths Problems

Test 2 — pages 5-7

1. A
6 is in the hundreds column, so its value is 600.

2. 104 cm
A regular octagon has 8 sides of equal length and each side is 13 cm long, so the perimeter is 13 × 8 = 104 cm.

3. 0.74
There is a 7 in the thousandths column, so round the hundredths column up to get 0.74.

4. 54 s
The shortest time is 34 s and the longest is 1 min 28 s, or 60 + 28 = 88 seconds. The difference is 88 – 34 = 54 s.

5. 5
320 ÷ 4 = 80, so 4 × 80 = 320. 75 + ? = 80, so ? = 80 – 75 = 5.

6. C
Of the options given, 0.59 mm is the only measurement that falls between 0.51 mm and 0.61 mm.

7. 66
The difference between terms increases by 1 each time. The 5th term (51) is 14 greater than the previous term, so the 6th term is 51 + 15 = 66.

8. D
$35\% = {}^{35}/_{100}$. ${}^{35}/_{100} = {}^{35 \div 5}/_{100 \div 5} = {}^{7}/_{20}$.

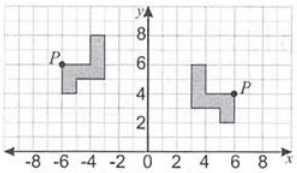
9. 3690
246 × 15 = (246 × 10) + (246 × 5)
= 2460 + (2460 ÷ 2) = 2460 + 1230 = 3690.

10. C
Angle a is obtuse, so you can rule out A and B. It is much closer to 180° than it is to 90°, so you can rule out D and E. The best estimate for the size of angle a is 160°.

11. 48 cm²
The area of a triangle is ${}^{1}/_{2}$ × base × height, so the area is ${}^{1}/_{2} \times 12 \times 8 = 96 \div 2 = 48$ cm².

12. 24
The sum of the four numbers given is 36 + 23 + 24 + 13 = 96, so the mean is 96 ÷ 4 = 24.

13. (6, 4)
The new coordinates of point P are (6, 4):



14. 1250 g
Convert all of the masses to grams. Put the masses in order from highest to lowest: 1850 g, 1800 g, 1100 g, 750 g, 600 g. The difference between the biggest and smallest value is 1850 – 600 = 1250 g.

15. B
There are 30 days in June and 21 days in 3 weeks. Add 21 days to June 16th in stages: 14 days take you to June 30th, so the remaining 7 days take you to July 7th.

16. 2:5
28 and 70 are both multiples of 14, so the ratio can be simplified like this: 28:70 = (28 ÷ 14):(70 ÷ 14) = 2:5.

17. 72°
The angles inside a regular pentagon are all equal in size and angles on a straight line add up to 180°, so the size of angle a is 180 – 108 = 72°.

18. 150
${}^{1}/_{8}$ of 240 = 240 ÷ 8 = 30, so ${}^{3}/_{8}$ of 240 = 3 × 30 = 90.
15% of 400 = 10% of 400 + 5% of 400 = 40 + 20 = 60.
90 + 60 = 150.

19. D
$25 = 5^2$, $81 = 9^2$, $121 = 11^2$ and $196 = 14^2$, but 145 isn't a square number.

20. E
$3(n + 15) = (3 \times n) + (3 \times 15) = 3n + 45$. So $3(n + 15)$ is equivalent to $3n + 45$.

21. 111
Use long division:

```
      1 1 1
   ┌────────
31 │ 3 4 4 1
     3 1
     ─────
       3 4
       3 1
       ───
         3 1
```

22. A
The computer takes x and multiplies it by 9, giving $9x$. Then it adds 15, giving $9x + 15$.

Long Maths Word Problems

Test 3 — pages 8-10

1. A

0.5 litres = 500 millilitres. So the total volume of the drink in millilitres is 500 + 35 = 535 ml.
In litres, this is 0.535 litres.

2. D

The area of the wall is 12 × 5 = 60 m^2.
If 2 boxes of tiles are needed to cover 1 m^2, then 60 × 2 = 120 boxes would be needed to cover the wall.

3. £14.50

In total she paid 34.50 + 51 = £85.50.
So she received 100 – 85.50 = £14.50 in change.
(You can use partitioning to do this question.)

4. D

Each person needs 240 ÷ 6 = 40 g of flour.
So 10 people will need 10 × 40 = 400 g.

5. £11.10

The sum of the five different prices is
10 + 11 + 13 + 10 + 11.5 = 55.50.
£55 ÷ 5 = £11. £0.50 ÷ 5 = £0.10.
So the mean price is £11 + £0.10 = £11.10.

6. 25

$^7/_{12}$ are red, so $1 - {}^7/_{12} = {}^5/_{12}$ are not red.
$^1/_{12}$ of 60 is 60 ÷ 12 = 5.
So $^5/_{12}$ is 5 × 5 = 25.

7. 6 hours 55 minutes

The train leaves Newcastle at 10:22.
After 7 hours the time will be 17:22, which is 5 minutes after the arrival time of 17:17.
So the train must take 5 minutes less than 7 hours, which is 6 hours 55 minutes.

8. A

To arrive in Peterborough before 7:30 pm, Alf must catch the 12:33 train from York. He needs to leave his house 42 minutes before this time. 12:00 is 33 minutes before this time, so Alf needs to leave 9 minutes earlier than 12:00. This is 11:51 am.

9. 66 °F

$c = 18$. So $f = (2 \times 18) + 30 = 36 + 30 = 66$ °F.

10. 36

Stack 1 has 1 container, stack 2 has 1 + 2 = 3 containers, and stack 3 has 1 + 2 + 3 = 6 containers.
So stack 8 will have 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 = 36 containers.

11. 8 cm^3

The length of one of the cube's sides must be 6 ÷ 3 = 2 cm. So the volume of the cube is 2 × 2 × 2 = 8 cm^3.

12. 97

It's prime, so it must be an odd number, and it can't be 95, since 95 divides by 5. This means it must be one of 91, 93, 97 or 99. It can't be 93 or 99 since these both divide by 3 (93 = 3 × 31 and 99 = 3 × 33). And 91 divides by 7 (91 = 7 × 13). So it must be 97.

Test 4 — pages 12-14

1. 12 350 mm

To convert metres to millimetres, multiply by 1000.
So 12.35 m = 12.35 × 1000 = 12 350 mm.

2. C

The angle is obtuse, so it must be between 90° and 180°. This rules out options A, B and E. 170° is almost a straight line, and x isn't nearly straight, so it must be 140°.

3. 23 000 km

22 586 is closer to 23 000 than 22 000.
So 22 586 km rounded to the nearest thousand kilometres is 23 000 km.

4. C

3 can be written as $^{15}/_{5}$, so $3^{3}/_{5} = {}^{15}/_{5} + {}^{3}/_{5} = {}^{18}/_{5}$.
5 can be written as $^{25}/_{5}$, so Arno has
$5 - {}^{18}/_{5} = {}^{25}/_{5} - {}^{18}/_{5} = {}^{7}/_{5}$ rolls left.

5. 2 cm

The area of one face is 24 ÷ 6 = 4 cm².
4 = 2 × 2, so the side length must be 2 cm.

6. 36°

The angle x must be 360° ÷ 10 = 36°.

7. 66 seconds

Subtract 60 from each number and find the mean of what's left. 5 + 9 + 2 + 8 = 24, and 24 ÷ 4 = 6.
So the mean of the numbers after subtracting 60 from each of them is 6. This means the mean of the original numbers is 60 + 6 = 66 seconds.

8. £11.88

10% of £12 is £1.20, so after the price increase, the radio was for sale at a price of 12 + 1.2 = £13.20.
10% of £13.20 is £1.32, so after the price decrease, the radio was for sale at a price of
13.20 – 1.32 = £11.88 (you can use partitioning).

9. 30

The section for 1 sister makes an angle of 90°, which is $^{1}/_{4}$ of 360°. This means that the number of people with 1 sister is $^{1}/_{4}$ of 120, which is 120 ÷ 4 = 30.

10. C

60° is $^{1}/_{6}$ of 360, so $^{1}/_{6}$ of 120 people have 3 sisters.
120 ÷ 6 = 20 people. 35 people have no sisters, so there are also 35 people that have two sisters.
So the difference is 35 – 20 = 15.

11. £1525

If $h = 30$, then the price is
(50 × 30) + 25 = 1500 + 25 = £1525.

12. 20 hours

$1025 = 50h + 25$. Subtract 25 from both sides to get $1000 = 50h$. So $h = 1000 \div 50 = 100 \div 5 = 20$ hours.

Comprehension Practice

PAGES 38 - 45 — ASSESSMENT TEST 2

1. **B** — *In the passage it says the pharaohs built the pyramids as "eternal resting places to safeguard their souls".*
2. **C** — *In the passage it says that the pyramid was "one of the first of these tombs".*
3. **C** — *The passage tells us that the burial chamber was hidden underground "but this did not deter the grave robbers".*
4. **D** — *In the passage it says the pyramids were "built on the banks of the Nile", which is a river in Egypt.*
5. **E** — *In the passage it says "It was the tallest building in the world for over 3,800 years".*
6. **D** — *In the passage it says that the Ancient Egyptians filled their tombs with "the things they would need in the afterlife".*
7. **B** — *In the passage it says that a person's "actions on Earth were judged" and if they were found to be "unworthy" they were punished and "could not enter the afterlife".*
8. **B** — *Only the first paragraph explains why the pyramids were built. The subsequent paragraphs talk about their design and how they were built.*
9. **C** — *"rigorously" means the same as 'thoroughly'. It means that something has been done carefully.*
10. **B** — *"crude" is closest in meaning to 'rough'. It means that it was not perfect.*
11. **D** — *"imposing" is closest in meaning to 'impressive'. It means 'grand in appearance'.*
12. **D** — *Djoser is a proper noun because it is a name for a person.*
13. **C** — *'was' is a verb. It is the action word of the sentence.*
14. **E** — *These are adverbs because they describe verbs.*
15. **C** — *In the passage it says that Antonio's mother "aspired to be as strong and courageous as he was" which shows that she wants to be brave.*
16. **B** — *In the passage it says that the "journey had been very arduous" and Antonio had "suffered from sea-sickness" which shows that he had been ill.*
17. **C** — *Manolo's age is not mentioned in the text.*
18. **A** — *Antonio's final destination is one of the big teaching hospitals in London.*
19. **C** — *Antonio's father would be proud because he "had always hoped" that one of his children "would follow in his footsteps" and become a doctor.*
20. **C** — *In the passage it says they travelled on a "small cargo ship".*
21. **A** — *In the passage it says that Antonio's father had "two children" — Antonio and his "younger sister, Rosa".*
22. **E** — *In the passage it says that Antonio "tasted salty tears" — he felt "an ache" because his mother thought he was brave, but he was crying.*
23. **E** — *"intensive" means that something is 'demanding or difficult'.*
24. **B** — *"apprehensive" is closest in meaning to 'nervous'.*
25. **C** — *"inkling" is closest in meaning to 'idea', because Antonio had no idea how to get to London.*
26. **B** — *"arduous" is an adjective because it describes the journey.*
27. **D** — *'neared' is a verb. It is the action word of the sentence.*
28. **A** — *Metaphors describe something as being something else. This is a metaphor because Antonio's stomach is described as having knots in it.*

Verbal Reasoning

Paper 3 (pages 9–13)

1–5 Place the letters of the word below or above the symbols to make coding and decoding easier:

£	+	–	×	÷	@	%	/
P	U	R	C	H	A	S	E

1 **SHARES**
2 **SPRUCE**
3 **@ – × ÷ / %**
4 **% ÷ @ – £**
5 **× @ % ÷**

6 **towels, chips** After swimming we are sometimes allowed fish and chips for supper.
7 **cream, paint** The artist dipped his brush into the blue paint on his palette.
8 **supermarket, station** The train pulled into the station and let the passengers get off.
9 **ruler, pencil** Simon sharpened his pencil over the bin.
10 **door, window** The rain fell heavily against the window pane.
11 **d** dance, date, dash, dart, done
12 **f** fare, flag, for, flash, feel
13 **w** won, wit, want, was, wedge
14 **b** blank, bloom, block, blush, bowl
15 **g** gate, gloss, grain, grind, gutter
16 **thing** The pattern is to remove 'fl' from the beginning of the first word and replace it with 'th'.
17 **shell** The pattern is to remove 't' from the beginning of the first word and replace it with 'sh'.
18 **stop** The pattern is to reverse the order of the letters.
19 **whose** The pattern is to remove 'r' from the beginning of the first word and replace it with 'wh'.
20 **mire** The pattern is to remove 'ac' from the middle of the first word and replace it with 'ir'.
21 **kidnap, abduct** Both words mean to take someone away against their will.
22 **oil, lubricate** Both words mean to add oil or grease to something.
23 **scarce, scanty** Both words mean very small in quantity.
24 **current, contemporary** Both words mean belonging to the present time.
25 **flabbergast, astound** Both words mean to astonish.
26 **coast** Shore and beach are both on the coast; 'coast' means to freewheel or glide
27 **dog** A dog is both an animal and a pet; 'dog' means to pursue or follow
28 **figure** 'Digit' and 'number' are synonyms for figure; 'figure' means the same as 'form' and 'shape'.
29 **goal** In sport, a goal, a score and a point are synonyms; 'goal' means the same as aim and target.
30 **branch** A branch, a twig and a bough are all parts of a tree; 'branch' also means a subdivision or offshoot.

31–35 Try each set of the words in the first set of brackets. Do they make sense with any words in the second and third set of brackets? Only one combination of three words makes sense.

31 **dog, barked, lead**
32 **tower, view**
33 **forests, trees, animal**
34 **computer, information**
35 **quickly, play, puddles**

36 **morning, dusk** 'Dawn' begins the 'morning' as 'dusk' begins the 'evening'.
37 **run, wings** 'Legs' are used to 'run' as 'wings' are used to 'fly'.
38 **meadow, beach** 'Grass' covers a 'meadow' as 'sand' covers a 'beach'.
39 **seven, twelve** There are seven days in a week, as there are twelve months in a year.
40 **Stop, green** 'Stop' is represented by the 'red' traffic light, as 'go' is represented by the 'green' traffic light.
41 **refuse, offer** 'Refuse' is the most opposite to 'offer' because 'refuse' means to decline whereas 'offer' means to propose.
42 **many, few** 'Many' is the most opposite to 'few' because 'many' means a large number whereas 'few' means a small number.
43 **asleep, awake** 'Asleep' is the most opposite to 'awake' because 'asleep' means unconscious whereas 'awake' means conscious.
44 **ebb, flow** 'Ebb' is the most opposite to 'flow' because 'ebb' is when the tide is moving away from the shore whereas 'flow' is when the tide is coming in towards the shore.
45 **health, ailment** 'Health' is the most opposite to 'ailment' because 'health' generally means being well whereas an 'ailment' is the same as an illness.
46 **pencil, pen** The other three words are connected to education.
47 **believe, guess** The other three words all mean to encourage.
48 **horse, trough** The other words are all animal homes.
49 **rail, road** The other words are all vehicles.
50 **nephew, father** The other words are female family names.
51 **with** withdraw, withstand, withhold, without
52 **master** masterpiece, mastermind, masterclass, masterwork
53 **after** aftercare, afternoon, after-effect, aftershock
54 **up** upstairs, upset, upright, uphill
55 **night** nightfall, nightcap, nightdress, nightlight

56–57

C		U		S	
A	N	G	L	E	S
R		L		T	
P	O	I	N	T	S
E		E		E	
T	U	R	K	E	Y

58–59

	S		C		A
E	T	C	H	E	D
	O		O		V
P	R	A	I	S	E
	M		C		R
A	S	P	E	C	T

60 **18, 29** The number added increases by 1 each time: +1, +2, +3, +4, +5, +6.

61 **96, 36** The number decreases by 12 each time.

62 **38, 30** The number subtracted decreases by 2 each time: –14, –12, –10, –8, –6, –4.

63 **13, 13** There are two sequences which alternate. The first, third, fifth and seventh numbers follow the first sequence; the second, fourth and sixth numbers follow the second sequence. In the first sequence, the number increases by 1 each time. In the second sequence, the number increases by 2 each time.

64 **4, 6** There are two sequences which alternate. The first, third, fifth and seventh numbers follow the first sequence; the second, fourth and sixth numbers follow the second sequence. In the first sequence, the number increases by 1 each time. In the second sequence, the number increases by 2 each time.

65 **2 January** (There are 31 days in December so 30 December + 3 days)

66 **23 December** (30 December – 7 days)

67 **13 January** (There are 31 days in December so 30 December + 14 days)

68–70 Arrange the words in a grid to make it easier to put them in the correct alphabetical order.

d	o	u	b	l	e
d	o	u	b	t	
d	o	u	g	h	
d	o	u	s	e	
d	o	w	n		

68 **down**

69 **double**

70 **doubt**

71 **r** tear, risk; purr, rope

72 **w** paw, work; pillow, weather

73 **b** bulb, barge; barb, bush

74 **p** wasp, pear; slip, pond.

75 **n** crown, nod; plan, noon.

76 **omen** He keeps the stamps fr**om en**velopes.

77 **scan** Mistake**s can** be easily made.

78 **wink** She gre**w ink**y-blue flowers in the garden.

79 **term** It's your turn af**ter m**ine.

80 **here** **He re**plied angrily, and ran out.

Paper 4 (pages 13–18)

1–5 Use grids as shown below to help work out the missing word.

1 **REAL**

		3	1		2		4					3	1		2		4		
K	E	R	B		A	S	K	S		A	J	A	R		E	E	L	S	

2 **NEST**

		1	2		3	4						1	2		3	4			
P	I	T	Y		P	E	A	S		B	O	N	E		S	T	I	R	

3 **FOUL**

	2	3			4			1			2	3			4			1	
T	A	I	L		T	H	A	W		S	O	U	R		L	E	A	F	

4 **BEDS**

4		1			2	3				4		1			2	3			
E	N	D	S		I	C	E	D		S	O	B	S		E	D	G	E	

5 **TOOK**

	2	3			4			1			2	3			4			1	
T	I	N	S		D	R	A	B		W	O	O	D		K	I	L	T	

6 **PEA** speaks

7 **ONE** honey

8 **EAT** weather

9 **LAY** playing

10 **CAN** vacant

11 **therefore**

12 **outlaw**

13 **inside**

14 **handsome**

15 **capable**

16 **REVERSE**

17 **WRING**

18 **SPEAK**

19 **PEACE**

20 **SPOON**

21 **22, 37** The number added increases by 1 each time: +2, +3, +4, +5, +6, +7, +8.

22 **68, 77** The sequence alternately adds 9 and 2: +9, +2, +9, +2, +9, +2, +9.

23 **10, 15** The sequence alternately adds 3 and 1: +3, +1, +3, +1, +3, +1, +3.

24 **5, 95** The sequence alternately subtracts 1 and multiplies by 3: –1, x3, –1, x3, –1, x3, –1.

25 **75, 68** The sequence alternately subtracts 5 and adds 1: –5, +1, –5, +1, –5, +1, –5.

26 **call, whisper** The other words are all related to weather.

27 **book, programme** The other words are verbs related to seeing.

EXPANDED ANSWERS

Bond Verbal Reasoning Assessment Papers 10–11+ years Book 1

28 **face, leg** The other words are connected to colour.
29 **animal, house** The other words are verbs related to making marks with a pen.
30 **skin, jelly** The other words are fruits.
31 **MQ** Each letter in the first pair moves forward by one letter in the second pair.
32 **51** The first number in the pair is multiplied by 3 to make the second number.
33 **31** The first number in the pair is divided by 3 to make the second number.
34 **9** The second number in the pair is the square root of the first number.
35 **100** The first number in the pair is divided by 100 to make the second number.
36–40 Place the letters of the word below or above the symbol to make coding and decoding easier:

▲	❑	■	▼	❍	●	◆
C	L	O	T	H	E	S

36 **SOOTHE**
37 **CLOSE**
38 **LOST**
39 ▼❍■◆●
40 ❍■◆▼
41 **fire, ice** 'Fire' is the most opposite to 'ice' because 'fire' is extremely hot whereas 'ice' is extremely cold.
42 **freeze, heat** 'Freeze' is the most opposite to 'heat' because 'freeze' is the verb for making something very cold whereas 'heat' is the verb for making something very hot.
43 **night, morning** 'Night' is the most opposite to 'morning' because 'night' is dark whereas 'morning' is light.
44 **sea, land** 'Sea' is the most opposite to 'land' because 'sea' is liquid whereas 'land' is solid.
45 **toil, rest** 'Toil' is the most opposite to 'rest' because 'toil' is a synonym for work whereas 'rest' is a synonym for leisure.
46 **faint** To faint means to blackout or feel giddy; 'faint' also means faded or unclear.
47 **blow** A gale and a blast both blow (they are types of wind); a blow is also a synonym for an upset or a calamity.
48 **charm** To charm is to attract or to please someone; a charm is also similar to a spell and relates to magic.
49 **capital** 'Capital' is a synonym for chief or main; capital also means the same as money or wealth.
50 **break** To break means to split or shatter; a break is also an interval or a holiday.
51 **ROLLING, MOSS**
52 **SEVEN, WEEK**
53 **COUNT, CHICKENS**
54 **CAPITAL, WALES**
55 **SEVEN, RAINBOW**
56 **XGJXF** To get from the word to the code, move each letter backwards five places.
57 **HFMORTSG** This is a mirror code. To get from the word to the code, number the letters of the alphabet from 1 – 13 and then 13 – 1. Look for the number of a letter, then find the letter with the same number in the other half of the alphabet. For a different way of working out mirror codes, see the answer to Paper 13 Q56.
58 **CMVF** To get from the word to the code, move each letter forwards one place.
59 **STUB** To get from the code to the word, move each letter backwards one place.
60 **DUST** To get from the code to the word, move each letter forwards two places.

61–62

S		S		N	
P	O	T	T	E	R
R		A		T	
A	S	T	U	T	E
Y		I		L	
S	I	C	K	E	N

63–64

H		K		P	
O	P	E	N	E	D
P		T		A	
I	N	T	E	N	D
N		L		U	
G	R	E	E	T	S

65 **baby**

b	a	b	y						
g	r	o	w	n	u	p			
p	e	n	s	i	o	n	e	r	
s	c	h	o	o	l	g	i	r	l
s	t	u	d	e	n	t			

66 **seedling**

b	u	d					
f	l	o	w	e	r		
l	e	a	f				
s	e	e	d				
s	e	e	d	l	i	n	g

67 **pushchair**

b	i	c	y	c	l	e		
c	a	r						
p	r	a	m					
p	u	s	h	c	h	a	i	r
t	r	i	c	y	c	l	e	

68 **letter**

b	o	o	k					
l	e	t	t	e	r			
p	a	r	a	g	r	a	p	h
s	e	n	t	e	n	c	e	
s	t	u	d	e	n	t		

69 **quadruple**

d	o	u	b	l	e			
n	o	n	e					
q	u	a	d	r	u	p	l	e
s	i	n	g	l	e			
t	r	i	p	l	e			

70 **People are not wood.** 'Some animals are kept as pets', 'People build with wood' and 'A dog is a type of animal' might well be true, but for this question you can only judge what is true based on the information given. The sentences do not say anything about pets, building, or dogs. Only 'People are not wood' can be true in this case because the sentences state that people are animals and that animals are not wood. Therefore, people are not wood.

71 **el** chisel, eldest
72 **le** handle, lead
73 **ge** change, geese
74 **al** metal, almost
75 **re** centre, read
76 **Where** is **your** big sister?
77 My **pencils** all **need** sharpening.
78 **I** made **some** scones today.
79 I l**ike** having my lunch **at** school.
80 I take my **dog** out each **day**.

Non-Verbal Reasoning

Test 2 Answers

Section 1 : Series

Q1 (c) : rotates 40° clockwise, sequence of fills
- shape is rotating clockwise – a bit less than 45° – should be not quite horizontal – rule out (a)
- fills change – if it's a series then it should look like the 2nd – rule out (b) & (d)
- compare (c) & (e) – (e) is wrong way up so answer = (c)

Q2 (a) : grey shading moves anti-clockwise; bold moves clockwise
- 3 circles – grey moves anti-clockwise so it will be bottom left – rule out (c) (d) & (e)
- compare (a) & (b) – where should the bold be – it moves clockwise so answer = (a)

Q3 (e) : centre figure rotates 90° clockwise - star alternates shading; corner triangle moves anti-clockwise
- main figure rotates clockwise - black bit will be top right – rule out (a)
- star alternates – will be black so rule out (b)
- corner triangle goes anti-clockwise – should be top left – rule out (d)
- compare (c) & (e) – star wrong In (c) so answer = (e)

Q4 (b) : regular size variation of face; line moving clockwise & colour alternates
- easiest to view it from right to left – face gets bigger then smaller
- will be small in 1st so rule out (c) & (e)
- corner stick moves regularly and alternates colour – will be black at top right so answer = (b)

Q5 (d) : crosses lose one; stars gain one but circles halve then double
- stars gain 1 so will be 3 – rule out (c) & (e)
- crosses lose 1 so will be 3 as well – rule out (b)
- compare (a) & (d) – 1 or 2 circles? – 1 so answer = (d)

{No circles or 4 would both make a series but they're not options}

Q6 (d) : star alternates orientation & clockwise round corners ; box 45° anti-clockwise; ovals alternate shading
- star goes clockwise round the corners – need top left so rule out (e)
- star alternates orientation as it goes – should be like 1st so rule out (a)
- box is moving anti-clockwise – will reach top left (like the star) so rule out (c)
- compare (b) & (d) – oval shading – need black on top so answer = (d)

Q7 (b) : top black moves down 1; bottom black moves up 4; grey moves up 2 - both blacks in same place
- snakes – (d) is the wrong way round so rule that out
- follow the grey – moves 2 positions upwards –rule out (e)
- follow the top black – 1 position down – nothing ruled out
- follow the bottom black – 4 spaces up – will be on top of the other black – answer = (b)

{black on black is black - black on top of any other shading will hide the other one}

Q8 (e) : oval & rectangle alternate layers; dots flip horizontally
- bubbles always 3 but pattern alternates – rule out (a) & (b)
- oval always left of rectangle- rule out (d)
- main figure also alternates – will look like 1st & 3rd so answer = (e)

Q9 (a) : lines decrease by 2 on alternate frames; circle alternates normal and bold; dot rotates 90° clockwise
- centre circle alternates – will be normal outline rule out (c)
- dot moves 90° clockwise so will be at the top – rule out (e)
- lines at top go 5 0 3 0 ? – should be 1 so answer – (a)

Q10 (c) : helmet rotates 50° anti-clockwise with a sequence of 3 fills; star alternates black white & stays still relative to helmet
- view this from right to left – helmet rotates clockwise a bit more than 45°
- should be close to vertical – rule out (b) & (e)
- sequence of shading – grey left of white – they're all grey
- star always in the same place relative to helmet & white – only (c) fits so answer = (c)

Q11 (c) : star gets an extra point; circle appears in frame 2 then moves anti-clockwise; plus appears where circle was previously
- star gets an extra point each time – need 5 so rule out (a)
- going from 4th to 5th, circle moves anti-clockwise and a plus takes the space where it was
- this fits with circle on top in 2nd so look for circle at the left – all OK but (d) has 2 circles
- circle was at top in 2nd so look for a plus there – rule out (e)
- compare (b) & (c) – (b) has 2 +'s so answer = (c)

Q12 (c) : 90° clockwise; arrow moving anti-clockwise round the figure
- figure rotates 90° clockwise – should point right – rule out (b) & (d)
- arrow moves 1 side anti-clockwise round the shape – should be left side of triangle
- rule out (a), rule out (e) (wrong side) leaving answer = (c)

{this is a movement relative to the main shape – not common}

Q13 (b) : figure lost is one with bold outline previously; bold outline figure was previously grey
- number of figures goes down by 1 – nothing ruled out
- look at 3 to 5 – which one disappears? – it's the one which was bold previously
- diamond is bold in 1st so should go in 2nd – rule out (a) & (c)
- which one should be grey? – it's the one which goes bold next time
- need a grey arrow (b) or (e) but (e) is wrong way up so answer = (b)

{tricky question but the idea of something indicating what will disappear next is common}

Q14 (d) : line with alternate black & white circle rotates 90° anti-clockwise; behind it a 6 point star develops 1 line at a time
- line with a circle on the end rotates about 90° anti-clockwise and alternates black & white
- only (d) & (e) will fit – compare them – is it 3 or 4 lines?
- number of lines increases – will be 3 in the missing frame so answer = (d)

Q15 (a) : 1 more at top alternating diamonds & triangles; 1 more circle at middle & bottom with alternating colour added at right
- figures at top increase by 1 so 4 needed – rule out (b)
- they alternate diamonds and point-up triangles – need triangles so rule out (c) & (d)
- compare (a) & (e) – what pattern of circles at the bottom?

- circles add 1 alternating colour – need grey at right so answer = (a)

Q16 (d) : figure rotates 90° clockwise; short and long ends swap colours
- figure rotates 90° clockwise – should point down rule out (b)
- colours swap each time – need long black & short white – only (d) fits so answer = (d)

Section 2 : Codes

Q1 (e) : KJ - 1st is centre shading; 2nd is top shading
- 2 H's as 1st letter – goes with centre shading – unknown is white so 1st letter is K
- 2 V's as 2nd letter – goes with top shading – unknown is white so 2nd letter is J
- answer = KJ = (e)

Q2 (c) : LV - 1st is line ending; 2nd is orientation
- 2 D's & 2 L's as 1st letter – goes with line ending – unknown has white arrow so 1st letter is L
- 2 N's as 2nd letter – goes with orientation – unknown is like 2nd so 2nd letter is V
- answer = LV = (c)

{ codes not related to height }

Q3 (c) : BR - 1st is no. of balls at free end; 2nd is no. of black balls at white end
- 2 B's as 1st letter – goes with 2 balls at free end – unknown has 2 so 1st letter is B
- 2 T's as 2nd letter – goes with 2 blacks at white end – unknown has 1 so 2nd letter is R
- answer = BR = (c)

Q4 (a) : CLU - 1st is shape; 2nd is orientation ; 3rd is shading
- 2 Y's as 1st letter – goes with shape – unknown is hexagon so 1st letter is C
- 2 I's as 2nd letter – goes with orientation – unknown is horizontal so 2nd letter is L
- 2 U's as the 3rd letter- goes with shading – unknown is white so 3rd letter is U
- answer = CLU = (a)

Q5 (d) : RU - 1st is height; 2nd is orientation
- 3 S's as 1st letter – goes with height – unknown at bottom so 1st letter is R
- 2 A's & 2 D's as 2nd letter – goes with orientation – unknown like 3rd so 2nd letter is U
- answer = RU = (d)

Q6 (d) : DT - 1st is stripes; 2nd is orientation
- 2 H's as 1st letter – goes with number of stripes – unknown has 2 so 1st letter is D
- 2 L's as 2nd letter – goes with orientation – unknown points up so 2nd letter is T
- answer = DT = (d)

Q7 (b) : EU - 1st is shape; 2nd is shading
- all different for 1st letter so leave it for now
- 2 S's as 2nd letter – goes with shading so 2nd letter is U
- shapes are all different so 1st letter is probably shape – unknown is diamond so 1st letter is E
- EU is an option so answer = EU = (b)

Q8 (e) : L J - 1st is shape; 2nd is outline
- 2 C's as 1st letter – goes with shape – unknown is hexagon so 1st letter is L
- 2 N's as 2nd letter – goes with outline – unknown is dashed so 2nd letter is J
- answer = L J = (e)

Q9 (a) : ND - 1st is number of squares; 2nd is triangle position
- 2 B's as 1st letter – goes with number of squares – unknown has 3 so 1st letter is N
- 2 K's & 2 R's as 2nd letter goes with triangle position – unknown is at right so 2nd letter is D
- answer = ND = (a)

Q10 (c) : GB - 1st is orientation; 2nd is dots; star not coded
- 2 N's as 1st letter – goes with orientation – unknown points left, not like 3rd – 1st is new letter
- 2 T's as 2nd letter – goes with dot number – unknown has 2 so 2nd letter is B
- there is a star which could be black or white but it's clearly not coded
- answer = (new letter)-B – must be GB so answer = (c)

{If 2 figures are similar but clearly not identical then assume the coding will be different}

Q11 (b) : KE - 1st is direction; 2nd is height (line ending not coded)
- 2 N's & 2 U's as 1st letter – goes with orientation – unknown is horizontal so 1st letter is K
- 3 H's as 2nd letter – goes with height of stick – unknown at top so 2nd is E
- answer = KE = (b)

{Line endings are different but 2nd 4th & 5th have different code letters so not coded}

Q12 (e) : PT - 1st is position of small circles; 2nd is centre colour (star colour not coded)
- 2 F's & 2 O's as 1st letter – goes with where circles are – unknown is inside so 1st letter is P
- 2Y's & 2 T's as 2nd letter – goes with centre shading – unknown is H-stripes so 2nd letter is T
- answer = PT = (e) (star colour varies but is not coded)

Q13 (b) : JU - 1st is base shading; 2nd is black oval position
- 2 Y's as 1st letter – goes with base colour – unknown is grey so 1st is new letter
- 2 L's as 2nd letter – goes with position of black oval – unknown at top so 2nd letter is U
- answer = (new letter) - U, only option is JU = (b)

Q14 (a) : YB - 1st is total number of circles; 2nd is centre shape
- 2 O's as 1st letter – not obvious – both have a total of 4 circles
- the others all have a different total number of circles – unknown has 5 so 1st letter is Y
- 2 F's as 2nd letter – goes with centre shape – unknown is star so 2nd letter is B
- answer = YB = (a)

Q15 (e) : CT - 1st is black / white balls; 2nd is number of lines
- 2 R's & 2 N's as 1st letter – goes with black/white ball combination – unknown is 2 blacks so 1st letter is C
- 2 U's & 2 E's as 2nd letter – goes with number of lines – unknown has 3 so 2nd letter is T
- answer = CT = (e)

Q16 (c) : RLV 1st is orientation; 2nd is number; 3rd is symbol (ambiguous no RCK)

- 2 T's as 1st letter – goes with orientation – unknown points right like 3rd so 1st letter is R
- 2 O's as 2nd letter – goes with type of symbol **and** number of symbols – unknown has 1 circle
- 2nd letter could be C (type of symbol) or L (1 symbol) but there isn't an RC answer so 2nd is L
- 2 H's as 3rd letter – same problem but we know 2nd is number so this must be type of symbol
- unknown is circle so 3rd letter is V; answer = RLV = (c)

{when 2 answers are possible use the answers to tell you which one is right}

Section 3 : Analogies

Q1 (b) : figure rotates 180° and shading becomes horizontal

- figure rotates 180° – need down pointing arrow with left projection – rule out (a) & (c)
- (d) clearly too small so compare (b) & (e) – shading too big in (e) so answer = (b)

Q2 (d) : flips vertically, outer becomes dashed

- might have V-flipped or rotated – doesn't matter – need upwards chevron - rule out (b)
- outer becomes dashed, inner stays the same – rule out (a)
- seems to be all that happens so compare (c) (d) & (e)
- not (c) (oval at wrong end) or (e) (oval wrong way round) so answer = (d)

Q3 (e) : the unshaded element rotates 45° clockwise and becomes solid white and the dot moves diagonally

- white figure rotates 45° clockwise and goes on top of grey – rule out (b) (c) & (d)
- compare (a) & (e) – don't want bold – so answer= (e)

{If you can solve it without using all the elements, make sure it's OK before moving on}

Q4 (a) : 180° rotation of whole figure

- everything's moved diagonally but the arrow and bridge point the other way
- that's a rotation of the whole figure – look for cross at bottom right – not like (e)
- look for rotated F at bottom left - not (b)
- look for upside down heart at top right – not (d)
- compare (a) & (c) – telephone should point left so answer = (a)

Q5 (e) : balls lie over the oval in the same order as on the left

- looks like the symbols on the left appear on top of the oval to the right
- not (a) (not on top); not (d) (one circle is inside the oval)
- symbols on the oval are in the same order as originally – should be arrow, 2 black, 2 white
- not (b) or (c) (both alternate) so answer = (e)

Q6 (a) : small shapes swap to other side of container which rotates 90° anti-clockwise

- outer has rotated 90° anti-clockwise – need dashed at right – rule out (c) & (e) - dotty
- inner shapes have swapped sides & then rotated with the outer
- arrow should be on the right, pointing left – rule out (d)
- compare (a) & (b) – oval should be vertical so answer = (a)

Q7 (c) : rotates 180°

- whole figure has rotated 180° – black square will be bottom right – rule out (b) & (e)
- horizontal bar on vertical line should be top left – they all are
- bold double arrow should be on the left pointing up – rule out (d)
- compare (a) & (c) – double arrows point the wrong way in (a) so answer = (c)

Q8 (c) : circles go to vertices - top & bottom are below the main figure; small copy of container appears at centre

- centre circle goes to each vertex – they all do
- top circles are under main figure, side ones on top – rule out (a) & (d)
- outer shape becomes new centre – rule out (e)
- compare (b) & (c) – don't want the hexagon to rotate so answer = (c)

Q9 (d) : each element of the figure independently flips horizontally

- the line figure has H-flipped – they all have
- the other elements have also H-flipped but remained where they were
- look for left arrow at bottom left – rule out (c) & (e)
- look for backwards 5 at bottom right – rule out (b)
- compare (a) & (d) – slice of toast should have bite at top so answer = (d)

Q10 (b) : 180° rotation; solid outline; white star

- arrow rotates 180° – ball should be top left on a vertical stalk – rule out (a) & (e)
- want a solid outline- rule out (d)
- compare (b) & (c) – we need white star so answer = (b)

Q11 (d) : figure at bottom goes to top; figure at top rotates 90° clockwise and goes to bottom with a copy of the centre figure at its left

- grey figure at bottom goes to top – rule out (c)
- figure near to centre remains, copy ends up bottom left – rule out (b) & (e)
- compare (a) & (d) – (a) is an octagon so answer = (d)

Q12 (e) : flips horizontally; top 2 lines move up; bottom 2 swap positions and short one elongates

- main figure has H-flipped or 180° rotated – rule out (b) (altered figure)
- upper diamond moves up slightly; lower moves to bottom
- circles are in diamond positions – rule out (c) & (d)
- compare (a) & (e) '+' figure should be long so answer = (e)

Q13 (a) : figure flips horizontally and centre shading rotates 90°

- overall looks like an H-flip of the whole figure – rule out (c) (no circle) & (e) (too small)
- shading of centre section rotates 90° – rule out (d)
- compare (a) & (b) – shading too big in (b) so answer = (a)

Q14 (d) : not left to right : relationship is grey star has 2 more points than bold white star

- bold 6 point star becomes grey 8 point star – we have a grey star so looks like the right figure
- grey figure relates to other as the other has 2 fewer points and is bold
- look for bold 3 pointed star – answer = (d)

{There is a relationship between the 1st 2 figures – it's not always left to right though it nearly always is. Usually there's a strong clue that it is backwards}

Q15 (d) : vertical becomes alternating white / grey (white at top); shading on right rotates 90°
- shading of right element rotates 90° – rule out (b)
- pattern on left becomes alternating white / grey with white at top – rule out (a) & (c)
- compare (d) & (e) – assume right figure hasn't flipped so answer = (d)

{You can't tell if an oval has flipped but always make the simpler assumption that it hasn't}

Q16 (c) : white figure to grey over white enlarged copy rotated 60° anti-clockwise
- white figure becomes grey on top of another figure – rule out (a) (d) (pointing wrong way) & (e)
- compare (b) & (c) – white figure should be rotated 60° anti-clockwise so answer = (c)

Section 4 : Matrix

Q1 (b) : left right & top bottom mirror each other
- right is an H-flip of the left – look at top left triangles – (c) is wrong way round
- look at + symbol – should be below black triangle – rule out (a)
- look for H-flipped line figure – (d) & (e) are clearly wrong so answer = (b)

Q2 (e) : same shape on right diagonals; outlines same vertically
- can see the main right diagonal has identical stars – other right diagonals also the same
- need a right way up tear drop - rule out (a) (b) & (c)
- compare (d) & (e) - outlines same vertically so answer = (e)

{Could have been a 3 of each type question but this is a much stronger answer}

Q3 (a) : upper element rotates 45° anti-clockwise & goes grey
- left to right rotates 45° anti-clockwise – rule out (c)
- haven't ruled out (a) though you might expect the square bit to rotate
- rectangle part should be grey – rule out (b) & (d)
- compare (a) & (e) – grey bit too small in (e) so answer = (a)

{Be careful – it looks as though the whole figure rotates but you can't tell with a circle}

Q4 (d) : top & bottom rows are the same
- top row is the same as the bottom – must be (d)
- is it that easy? – looks like it so move on

Q5 (d) : top to bottom vertical flip & black figure becomes white
- white figure at the bottom goes black – rule out (a)
- can see top is V-flip of the bottom – too complicated to do the whole figure
- focus on the 'tick' at the bottom – (b) & (c) are the wrong way round
- compare (d) & (e) – straight line wrong way round in (e) so answer = (d)

Q6 (c) : shape on left diagonals; size and outline on horizontals
- same shape on the left diagonals – we need an up arrow – rule out (b) (d) & (e)
- what size arrow do we want? – size comes from the horizontal so take mid-size = (c)

Q7 (a) : outer shape splits and separates; inner shapes move together and then flip vertically
- downwards, oval breaks apart so octagons should do the same – rule out (b) (c) & (e)
- compare (a) & (d) – centre figure made by combining shapes & swapping colours
- should be white on top so answer = (a)

Q8 (b) : shape in columns; orientation in rows
- shape comes from the column – rule out (e)
- orientation comes from the row – rule out (a) & (d)
- compare (b) & (c) – colours shouldn't swap so answer = (b)

{ orientation of (a) not a V-flip of bottom row }

Q9 (d) : horizontally, inner rotates shading by 90°; diagonally, outer has half its sides, separated
- horizontal pattern for the inners – shading rotates 90° – rule out (a) & (c)
- outers are diagonal – loses half it's sides & those that remain separate
- look for 3 separated sides of a hexagon – rule out (b) & (e) so answer = (d)

Q10 (e) : shading from rows; shape in columns; centre row is a horizontal flip
- shape comes from column – all oval but (c) wrong way round
- shading comes from row – need vertical – rule out (d)
- middle row is an H-flip of top & bottom – only (e) works so answer = (e)

Q11 (d) : line figure flips horizontally; shape changes colour
- easy bit first – will need a black star top right – rule out (a) & (b) (too many points)
- main figure is an H-flip – (e) wrong way up so rule it out
- comparing (c) & (d) – (c) has a line pointing up when it should be down so answer = (d)

Q12 (b) : 3 shapes, 3 sizes of each, size from columns, no other pattern
- look at horizontals, verticals, diagonals – no pattern obvious
- what have we got – 3 circles of different sizes; 3 heptagons of different sizes but only 2 stars
- it's a 'one of each' matrix – the missing one is a small star (a) (c) & (d) are no good
- compare (b) & (e) – should be a 6 point star so answer = (b)

Q13 (e) : horizontally, duplicate and colour swap; up down, flip
- bottom row has same shapes in same places but dot colours reverse
- need oval, white over black at top left – rule out (a) & (b)
- need diamond with white left of black at bottom right – only (e) works so answer = (e)

Q14 (b) : symmetrical about centre
- see immediately it's symmetrical about the centre (centre being different is a clue)
- need black bottom left corner – rule out (a) & (d)
- need black pin on right diagonal with head at top – rule out (c) & (e) leaving answer = (b)

Q15 (d) : left to right, 180° rotate
- could be an H-flip with some colour changes – none of the answers are H-flips
- think again – it's just a 180° rotation – look for 2 blacks at left – rule out (a) (c) & (e)

- compare (b) & (d) – central figure has reversed in (b) so answer = (d)

Q16 (e) : rows give size; columns give shape; left diagonal gives shading
- figure comes from column – need upwards pointing pentagon so rule out (a) (b) & (d)
- compare (c) & (e) – left diagonal gives shading –answer = (e)

Section 5 : Odd One Out

Q1 (b) : small beneath big
- overlapping pairs of small and big copies, random orientations – they all seem good
- must be about overlaps – one always hides the other – which one is on top?
- little on top of big except in (b) so answer = (b)

Q2 (c) : 6 sided figure
- all polygons, dotty or dashed outlines – 2 are dotted so no odd one
- better count the sides & write the numbers on the question paper
- all are pentagons except (c) (hexagon) – answer = (c)

Q3 (a) : lower is not the same shape as upper
- top shape looks like bottom shape with variations in size, shading & outlines – nothing odd
- look again – (a) is heptagon over octagon, others are good copies – answer = (a)

{You can tell a heptagon as opposite sides aren't parallel – they are in an octagon}

Q4 (d) : lines are not displaced (would form a rectangle if joined)
- 2 parallel lines with circle and square – check shading – 2 have white squares so not odd
- look at lines – same separation but one is usually displaced from the other
- only (d) has the 2 lines making opposite sides of a rectangle so answer = (d)

Q5 (b) : different colours inner & outer - does not have the white grey black sequence
- doesn't look like the shapes – 2 rounded, 2 4-sided and a hexagon
- all have 4 concentric shadings – no odd ones in outer or inner shading
- write down the shadings – 1st is W G B W inner to outer etc.
- (b) is the odd one as it doesn't have the white – grey – black sequence; answer = (b)

{Not easy and almost impossible if you don't write things down}

Q6 (e) : main figure is a mirror image of the others
- not outlines; not little shapes so it's probably going to be mirror images
- from the lump to the thin end is clockwise except in (e) = mirror image so answer = (e)

Q7 (b) : regular polygon
- quick look, instant answer – (b) is a regular polygon so answer = (b)
- look again to see if there's anything even more obvious – looks good – next question

Q8 (c) : flat end of one figure should contact long side of next
- all 3 identical figures, touching with no overlaps – is it how they touch?
- all contacts are short side to long side but all but (c) touch with the flat side so answer = (c)

Q9 (e) : left hand of small figures should face the same way as the outer figure
- big figure contains white & grey copies facing each other, grey on right
- all have a horizontal line of symmetry
- white figure points the same way as outer except in (e) so answer = (e)

Q10 (a) : diamond is bold instead of circle
- outer shapes are same – all have 5 inner shapes, 1 grey & 2 bold
- are they the same 5 shapes? – Yes
- what's grey – various; what's bold – rectangle and circle except in (a) – answer = (a)

Q11 (d) : small figures not the same as large one
- various polygons with 2 little figures – nothing very odd
- check overlaps – little shapes can be on top of big or on same layer – nothing odd
- look more carefully – little shapes are same as big except in (d) so answer = (d)

Q12 (d) : number of lines should be 1 less than number of ovals
- all pretty much the same except the numbers so count and write down next to the figures
- number of lines is one less than number of ovals except in (d) so answer = (d)

{Don't try to count and remember – it's too hard}

Q13 (a) : 5 intersections not 4
- bunch of random lines – count them – they are all 5
- some form a chain like (b) but (a) & (c) don't
- try counting the cross overs – (a) has 5, the others have (4) so answer = (a)

{You might look for ages before stumbling across this so remember it as a possibility}

Q14 (e) : does not contain a line of symmetry
- 2 little copies on top of a big one – nothing odd here
- it's symmetry – (e) doesn't have a line of symmetry so answer = (e)

Q15 (c) : lines only cross 5 times (only create 4 loops)
- not the arrow heads, not clockwise & anti-clockwise so let's count loops
- lines make 5 loops except in (c) which has 4 : answer = (c)

Q16 (a) : shortest route from black to white is clockwise
- various shapes with black & white circles on top – nothing very odd about that
- circles are always quite close together – nothing odd, black not always left or above
- to go from black to white is anti-clockwise except in (a) so answer = (a)

{Not uncommon to have to look at the order of symbols on a larger figure}

Quick Lesson Recap

1) What is the formula to calculate any triangle number? **n(n+1)/2**

2) What is the 12th triangle number? **78**

3) What is the 10th triangle number? **55**

4) If Y = 3
What is 3Y + 39 = **48**

5) If W is 7, then what is X in **X = 4W – 12** ? **16**

6) What is Active tense? . **In the active voice the subject of the sentence does the action**

7) What is Passive tense? **In the passive voice, the subject of the sentence has the action done to it.**

8) Describe the comprehension techniques in as much detail as possible. *(3 marks)*

1. **Read** the story once, **imagine** the story taking place. Carefully, **thinking** about what every sentence means. **(Inference)**
2. If you do no understand something in the text, you **do not skip over it!** Go back and read it again until you understand it.
3. Then **skim** through the text a second time round, because this is a new text and by the time you get to the end you will not remember what the story was about.

Before answering each and every question you should go through this process;

1. **Always refer back to the text** and think carefully does this answer the question which was asked.
2. Sometimes you may need to piece together information from multiples parts of the text, you might not find the answer all on the same line or paragraph.

   For example: to answer question one, you may need to take information from line 3 and line 17 and then piece them together to get your answer – this is why it is important to **read the whole text before you answer any of the questions.**

How to find something in the text

1. **Look for key words** in the questions and search for them in the text
2. You should **focus** enough when you're reading the text the first time round that you are **aware of where to find** things roughly, is it in the middle of the page you need to look? Is it on the last page?

If you struggle to go through this process within the time limit given for the comprehension then you can extend the time by 5 minutes until you are familiar with the process after which you need to go back to working within the time limit for the remaining comprehension tests.

Homework – Vocabulary to memorise

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Vocabulary 2

Exercise A

1. Contemplate
2. Refute
3. Apprehend
4. Colleague
5. Caption
6. Outstanding
7. Assertive
8. Enormity
9. Reciprocate
10. Preoccupy

Exercise B

1. Assertive
2. Contemplate
3. Refute
4. Reciprocate
5. Outstanding
6. Colleague
7. Apprehend
8. Caption
9. Enormity
10. Preoccupy

Anagrams

Test 2

1.	e	Too many sweets are bad for your teeth.
2.	w	I am looking forward to the weekend.
3.	r	Huge progress has been made recently.
4.	l	The joke made him chuckle a little.
5.	p	I loved listening to her play the piano.
6.	r	The camera captured the sparkle in his eyes.
7.	a	You need to tread carefully because she is unpredictable.
8.	o	Orange is my brother's favourite colour.
9.	r	My elderly mother is in a nursing home.
10.	a	I suggest you take a tablet for your headache.

Related Words

Test 2

1 foal

Solution: The words in the top row of the grid are all names of animals. Each word in the bottom row is the young of the animal in the box directly above (e.g. a 'foal' is a young 'horse').

2 pointed

Solution: The words in the top row of the grid are all synonyms of 'intelligent'. Each of these words is a homonym, which means that they have more than one meaning. The words in the bottom row give an alternate meaning of the word above them (e.g. 'sharp' can mean 'intelligent' and 'pointed').

3 yard

Solution: The words in the top row of the grid are all units of measurement. Each word in the bottom row is a unit of measurement that is larger than the one in the box directly above it (e.g. a 'yard' is larger than a 'foot').

4 rustle

Solution: The words in the top row of the grid are all names of part of the natural world. Each item in the bottom row is an onomatopoeic word that is commonly used with the elements of nature directly above it.

5 butterfly

Solution: All of the items in the grid can fly. Each word in the top row shares the same number of syllables as the word directly below it (e.g. 'ladybird' and 'butterfly' both have three syllables).

6 crimson

Solution: Each word in the bottom row is a version of the colour directly above it (e.g. 'crimson' is a type of 'red').

7 beam

Solution: The words in the top row of the grid are all bodies in outer space. Each one can join up with the word directly below to form one new word (e.g. 'moon' + 'beam' = 'moonbeam').

8 seize

Solution: The words in the top row of the grid are all synonyms of 'understand'. Each word in the bottom row is a second meaning for each of these words (e.g. 'grasp' and 'seize' meaning 'to grab').

9 children

Solution: The words in the top row of the grid are all plurals that have been formed by adding 's'. Each word in the bottom row is a synonym of the word directly above it, but one in which the plural is **not** made by adding 's' (e.g. 'child' forms its plural by adding 'ren'.)

10 response

Solution: The words in the grid are all nouns. The ones in the top row are antonyms of the words directly below them (e.g. 'question' is the antonym of 'response').

Rhyming Synonyms

Test 2

1. **A** **asserted**
   persisted → insisted → asserted
2. **E** **pacify**
   smooth → soothe → pacify
3. **C** **blemished**
   clawed → flawed → blemished
4. **A** **suggest**
   reply → imply → suggest
5. **B** **kind**
   resign → benign → kind
6. **A** **dank**
   stamp → damp → dank
7. **A** **fragile**
   skittle → brittle → fragile
8. **A** **frank**
   stunt → blunt → frank
9. **C** **impoverished**
   institute → destitute → impoverished
10. **A** **grand**
    ravish → lavish → grand