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Overview of Your Scores

		%
×/÷ by 10, 100 and 1000	/ 6 marks	
Multiplication & Division	/ 5 marks	
Rounding	/ 10 marks	
BIDMAS	/ 5 marks	
Mean, Mode, Median & Range	/ 12 marks	
Elapsed Time	/ 5 marks	
Negative Numbers	/ 4 marks	
LCM	/ 6 marks	

Maths Total	/ 53 marks	
Verbal Techniques	/ 26 marks	
Comprehension	/ 24 marks	
Vocabulary	/ 50 marks	
Non-Verbal	/17 marks	
TOTAL =	/ 170	

Maths

Multiplying and Dividing Numbers by 10, 100 and 1000

1) $0.03 \times 10 = 0.3$

2) $6.075 \times 100 = 607.5$

3) $1.8 \times 1000 = 1800$

4) $35.7 \div 10 = 3.57$

5) $19 \div 100 = 0.19$

6) $4 \div 100 = 0.04$

(6 marks)

Rounding

Round each number to the nearest thousand.

1) 2,666 **3000**

2) 4,274 **4000**

3) 36,636 **37,000**

4) 29,731 **30,000**

5) 16,156 **16,000**

1) 2.531 2.53

2) 4.416 4.42

3) 8.717 8.72

4) 8.683 8.68

5) 5.941 5.94

(10 marks)

BIDMAS – Order of Operations

$$\begin{array}{r}
 1) \quad (21 - 5) \times 12 - 4 \\
 \quad 16 \quad \times 12 - 4 \\
 \quad \quad 192 \quad - 4 \\
 \quad \quad \quad 188
 \end{array}$$

$$\begin{array}{r}
 2) \quad 10 \times 9 + (10 + 8) \\
 \quad 10 \times 9 + \quad 18 \\
 \quad \quad 90 \quad + \quad 18 \\
 \quad \quad \quad 108
 \end{array}$$

$$\begin{array}{r}
 3) \quad (14 + 4) + 24 \times 12 \\
 \quad 18 \quad + 24 \times 12 \\
 \quad 18 \quad + \quad 288 \\
 \quad \quad 306
 \end{array}$$

$$\begin{array}{r}
 4) \quad 8 \times (10 + 5) + 5^2 \\
 \quad 8 \times 15 \quad + 5^2 \\
 \quad 8 \times 15 \quad + 25 \\
 \quad 120 \quad \quad + 25 \\
 \quad \quad \quad 145
 \end{array}$$

$$\begin{array}{r}
 5) \quad (62 - 2) - 5 + 4^2 \\
 \quad 60 \quad - 5 + 4^2 \\
 \quad 60 \quad - 5 + 16 \\
 \quad \quad 55 + 16 \\
 \quad \quad \quad 71
 \end{array}$$

(10 marks)

Mean, Mode, Median and Range

1) 2, 2, 4, 6, 6, 4
2, 2, 4, 4, 6, 6

Mean 4 Median 4 Mode 2, 4, 6 Range 4

2) 9, 7, 8, 6, 5, 6, 2, 8, 3
2, 3, 5, 6, 6, 7, 8, 8, 9

Mean 6 Median 6 Mode 6, 8 Range 7

3) 5, 4, 3, 8, 6, 7, 9
3, 4, 5, 6, 7, 8, 9

Mean 6 Median 6 Mode None Range 6

(12 marks)

Elapsed Time

Q.No	Start Time	End Time	Elapsed Time
1)	4:35 A.M.	6:20 P.M.	13 hours and 45 minutes
2)	9:30 P.M.	5:45 A.M.	8 hours and 15 minutes
3)	11:20 A.M.	8:25 P.M.	9 hours and 5 minutes
4)	1:05 P.M.	11:10 A.M.	22 hours and 5 minutes
5)	6:00 P.M.	3:15 A.M.	9 hours and 15 minutes

(5 marks)**Negative Numbers**

1) $300 - 657 = \underline{-357}$

2) $40 - 320 = -280$

3) $920 - 921 = -1$

4) $560 - 800 = -240$

(4 marks)

Lowest Common Multiple

Find the lowest common multiple

Find the least common multiple of each pair of numbers.

1) 3, 4

$$\text{LCM}(3, 4) = \underline{\mathbf{12}}$$

2) 5, 10

$$\text{LCM}(5, 10) = \underline{\mathbf{10}}$$

3) 9, 7

$$\text{LCM}(9, 7) = \underline{\mathbf{63}}$$

4) 12, 6

$$\text{LCM}(12, 6) = \underline{\mathbf{12}}$$

5) 22, 2

$$\text{LCM}(22, 2) = \underline{\mathbf{22}}$$

6) 11, 3

$$\text{LCM}(11, 3) = \underline{\mathbf{33}}$$

(6 marks)

Verbal Reasoning (2 marks per question)**GL Techniques**

Type 5:

- 1) **75. that**
- 2) **76. skip**
- 3) **77. swan**

Type 6:

4. SHOW
5. STEP

Type 7:

(2 marks per question)6) **56. arrive départ**7) **57. awake asleep**8) **58. back front _____**

Type 8:

9) **50. site**10) **51. hops**11) **52. hood**

Type 9:

12) **80. WAN AGE GOT**13) **81. FAN IRE GET****(26 marks)**

Comprehension (2 marks per question)

Test 1 — pages 2-5

1. A

Lines 1-2 state that when Pip was a child, he could not say his full name or anything clearer than the sound "Pip".

2. B

Line 1 states that Pip's "family name" (last name) is Pirrip, and his "Christian name" (first name) is Philip. Therefore, his full name is Philip Pirrip.

3. B

"on the authority of" (line 4) means 'from a reliable source' which suggests that Pip believes the inscription on his father's tombstone must be correct.

4. D

Although line 9 states that Pip believes his father was a "square, stout, dark man, with curly black hair", in lines 5-6 Pip admits "I never saw my father ... and never saw any likeness of either of them", so it cannot be clear from the text.

5. A

Line 10 states that Georgiana is the wife of Pip's father. In the next line, Pip refers to his "mother", therefore, it can be assumed that Georgiana is Pip's mother.

6. B

In line 10, Pip describes how he uses the font style ("character and turn") of her tombstone's inscription to imagine what she looks like. Therefore, Pip believes she was freckled and sickly because of the style of the writing on her tombstone.

7. D

If something is "universal" then everybody can relate to it. Therefore, a "universal struggle" is something that everyone experiences. In this case, Pip is referring to life.

8. C

Line 5 states that Pip has a sister — "Mrs. Joe Gargery". Therefore, he is not the last surviving member of his family.

9. C

Line 5 states that Pip's sister married the blacksmith, and that her name is "Mrs. Joe Gargery". Lines 11-13 tell us that Pip has five brothers buried in the churchyard. However, the passage does not state Pip's father's first name.

10. B

To do something "religiously" means 'to do something constantly'. 'To entertain' an idea is 'to think about it'.

11. A

"raw" means 'cold'.

12. D

"bleak" means 'desolate'.

Vocabulary Test

Write the definition for each word. (4 marks for each word!)

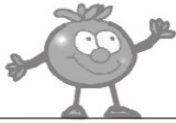
1) Obligatory	List 5
2) Bitter	List 5
3) Imitation	List 5
4) Magnitude	List 5
5) Sensitive	List 6
6) Misery	List 6
7) Prolong	List 6
8) Scoundrel	List 6

1) Ache	List 7
2) Determination	List 7
3) Moment	List 7
4) Jubilant	List 7
5) Fabulous	List 8
6) Outlive	List 8
7) Penalty	List 8
8) Inaccurate	List 8
9)	

1) Script	List 9
2) Cordial	List 9
3) Judgement	List 9
4) Discussion	List 9
5) Foggy	List 1
6) Overthrow	List 2
7) Alternative	List 3
8) Misuse	List 4
9) Havoc	List 4

(50 marks)

Vocabulary to memorise



Vocabulary 1

Learn the following words and then answer the questions.

- Demonstrate** (v.): show, reveal, visually explain, display.
Scientists use experiments to demonstrate the proof of their discoveries.
- Opportunity** (n.): chance, occasion, opening.
At the first opportunity our team broke out of defence and scored a quick goal.
- Imagine** (v.): to form a mental image of something, see, picture, dream up.
Close your eyes and imagine you are in a forest.
- Abusive** (adj.): rude, offensive, harsh, violent.
The crowd shouted abusive comments at the unpopular politician, after his speech.
- Illusion** (n.): false belief, delusion, magic, deception.
It would be an illusion if you thought you could pass an exam without working.
- Course** (n.): a class, study / direction, passage of travel/ time period / part of a meal.
Throughout the course of history, there have been far too many useless wars.
- Foggy** (adj.): misty weather / unclear, confused, muddled.
When the weather becomes foggy, it is very hard to see clearly.
- Desert** (v.): abandon, leave, forsake.
Our parents ordered us to stick together and not to desert each other at the cinema.
- Invert** (v.): do the opposite, capsize, overturn, reverse.
Quite simply, to multiply in maths you invert the process of dividing.
- Machinery** (n.): equipment, gear, apparatus.
The machinery that runs an engine is quite complex.



Vocabulary 2

Learn the following words and then answer the questions.

- Advise** (v.): offer suggestions about best actions, help with decisions.
The librarian began to advise the student about which books to borrow.
- Savage** (adj.): violent, vicious, brutal, wild.
Many wild animals are dangerous, but hyenas are especially savage.
- Intimate** (adj.): closely acquainted or familiar / private, personal.
Ben and Alex were intimate friends, having known each other since they were nine years old.
- Glimmer** (n.): twinkle, gleam, sparkle.
In distant space I could still see the glimmer of the comet, as it sped through the darkness.
- Safeguard** (v.): defend, protect from future dangers, uphold.
We have to safeguard our homes against the danger of fire, by installing alarms.
- Overthrow** (v.): conquer, defeat the previous ruling class, topple.
Guy Fawkes intended to overthrow the King and Government, by blowing up the Houses of Parliament.
- Qualify** (v.): be suitable, meet the requirements, be entitled to, pass.
I asked my team if we had enough points to qualify for the second round of the competition.
- Reunite** (v.): re-join, reconcile, unify.
There are several websites which aim to reunite old friends who have lost touch.
- Aerial** (adj.): airborne, mid-air, floating.
Nowadays, small drones are used for aerial photography, producing a bird's-eye view.
- Operate** (v.): work, control, function, use.
My grandmother can barely operate her new smartphone as her fingers are too stiff.



Vocabulary 3

Learn the following words and then answer the questions

- Courageous** (adj.): brave, daring, bold.
Firefighters prove how courageous they are by rescuing people from burning buildings.
- Reign** (v.): rule, govern, control.
At her coronation in 1953, who could imagine the Queen was destined to reign for so many decades.
- Initiate** (v.): start, begin, introduce.
The manager decided to initiate a marketing campaign to increase sales.
- Maintain** (v.): preserve, keep, continue.
Top athletes follow a training programme to maintain fitness.
- Itinerary** (n.): planned route, journey, programme.
We received an e-mail to confirm our itinerary when we booked our holiday online.
- Reluctant** (n.): unwilling, hesitant, disinclined.
I was reluctant to go into the sea because the water was too cold.
- Alternative** (n.): substitute, other choice, replacement.
Soya milk is a popular alternative to cows' milk for people who are lactose intolerant.
- Effective** (adj.): successful, useful, applicable.
An effective way to improve your marks in maths is to learn your times tables.
- Casual** (adj.): unplanned, relaxed, laid-back, informal.
The e-mail stated that new pupils should wear casual clothing to the open day.
- Current** (adj.): existing, recent, up to date.
Mum says her current job is much more rewarding than her previous one.



Vocabulary 4

Learn the following words and then answer the questions.

- Permanent** (adj.): perpetual, lasting, constant, unchangeable.
The champion jockey was lucky because her injury was not permanent and healed quickly.
- Leisure** (n.): relaxation, rest, recreation.
After a hard day at school, it is necessary to have some time for leisure before doing homework.
- Ridiculous** (adj.): absurd, silly, outrageous.
Many years ago the idea of sending a man to the Moon was considered ridiculous.
- Fossil** (n.): remains of a plant or animal that existed in a previous time, relic, remnant.
Fossil hunters have found the bones of an elephant believed to be 500,000 years old.
- Limitation** (n.): restraint, control, block, condition.
The slow broadband in our area is a limitation for businesses that want to expand.
- Misuse** (v.): waste, abuse, mistreat, use incorrectly.
It is important not to misuse natural resources; forests cannot be replaced.
- Interrogate** (v.): question intensely, interview, cross-examine.
Detectives started to interrogate the suspect about the burglary and where he had been at the time of the crime.
- Accept** (v.): consent to receive, take, agree, recognise as correct.
My sister has decided to accept an offer from a top university although it is a long way from home.
- Havoc** (n.): destruction, disaster, confusion.
The tsunami caused havoc all along the coastline, flooding and destroying buildings.
- Masterpiece** (n.): perfection, work of genius, stunning success.
The painting had such vivid strokes of colour and detail, it was truly a masterpiece.



Vocabulary 5

Learn the following words and then answer the questions.

- Obligatory** (adj.): essential, required, necessary.
At the airport, it is obligatory to take off your belt to pass the security check.
- Potential** (n.): ability, possibility, promise.
An experienced football coach can spot potential in young children.
- Intrude** (v.): interrupt, intervene, meddle.
The unexpected visitor did not mean to intrude on the family party.
- Bitter** (adj.): feeling or showing resentment, anger, hurt / harsh or sour taste.
Oddly, my baby brother loves the bitter taste of a lemon slice.
- Formation** (n.): creation, establishment, founding.
The destructive wars of the twentieth century led to the formation of the United Nations.
- Dishonest** (adj.): untruthful, false, unfair.
The teacher did not believe Peter because he was often dishonest about his homework.
- Imitation** (n.): mock, fake, artificial, impression.
The bank manager said that the forged banknote was a credible imitation of real currency.
- Magnitude** (n.): scale, size, amount, importance.
The magnitude of the explosion was so great it could be heard fifty miles away.
- Ambitious** (adj.): aspiring, determined, wanting to be successful.
Effective targets are ambitious but not impossible to achieve.
- Competent** (adj.): qualified, decent, able.
The competent plumber quickly fixed the broken taps.



Vocabulary 6

Learn the following words and then answer the questions.

- Continuous** (adj.): constant, unending, non-stop.
The continuous buzzing of the bee at my window is driving me mad.
- Sensitive** (adj.): delicate, tender, nervous / emotional, thoughtful, understanding.
The antiseptic handwash irritated my sensitive skin and caused a rash.
- Disapprove** (v.): criticise, object, condemn, not agree with.
Parents often disapprove of violent films as they can be scary for children.
- Sociable** (adj.): outgoing, friendly, cordial.
I enjoy the youth club, as everyone is so sociable and I have made new friends.
- Misery** (n.): state of suffering, sadness, unhappiness.
The lions lived in a state of misery during the drought.
- Prolong** (v.): extend, lengthen, stretch.
Most parking apps allow drivers to prolong their parking session using their mobile.
- Mistreat** (v.): hurt, harm, abuse.
The RSPCA leads many campaigns against companies which mistreat animals.
- Scoundrel** (n.): rogue, rascal, villain.
The scoundrel stole my granny's shopping trolley from outside her flat.
- Discard** (v.) abandon, throw away, remove.
The pilot had to discard some fuel to reduce the weight of the aircraft before the emergency landing.
- Quarrel** (v.): an angry argument or disagreement.
My aunt and uncle rarely speak after a terrible quarrel they had about something very trivial.



Vocabulary 7

Learn the following words and then answer the questions.

- Ache** (v.): feeling of soreness, throb, hurt.
In the winter the cold makes my granny's back ache.
- Option** (n.): choice, selection, opportunity, possibility.
The student had no option but to leave the seminar after using racist language.
- Abrupt** (adj.): sudden, immediate, unexpected, almost rude, curt.
The end of the play was so abrupt that the audience were stunned into silence.
- Determination** (n.): willpower, resolve, grit.
It must take great determination to fight and win an election, against a popular opponent.
- Moment** (n.): instant, occasion, point in time.
At the moment of impact with the wall, the car was travelling at sixty miles per hour.
- Nominate** (v.): to name, propose, suggest to appoint.
At the beginning of the term we had to nominate one pupil to be our class representative.
- Ponder** (v.): consider, contemplate, think about, wonder.
The manager said she would have to ponder over the decision to give the employees a pay rise.
- Jubilant** (adj.): joyful, delighted, elated.
The jubilant crowd cheered madly when their football team won the cup.
- Anxious** (adj.): nervous, worried, uneasy.
Some people become anxious about speaking in public even if they are experts.
- Incompetence** (n.): uselessness, inability, ineffectiveness.
The public blame government incompetence for the problems in the NHS.



Vocabulary 8

Learn the following words and then answer the questions.

- Fabulous** (adj.): excellent, wonderful, marvellous.
The firework display was the most fabulous I had ever seen! The special effects were breathtaking.
- Encourage** (v.): inspire, boost, reassure, support.
An effective teacher will encourage children to believe they can succeed and give them confidence.
- Observe** (v.): inspect, remark, carry out.
The teacher observes her students closely during the test to check whether they are cheating.
- Outlive** (v.): outlast, survive, endure.
Turtles, some of whom have lived for nearly two hundred years, outlive all other creatures.
- Lifetime** (n.): generation, era, lifespan, period.
The famous scientist Gregor Mendel devoted his entire lifetime to the study of plants.
- Oversee** (v.): supervise, manage, direct.
It must be challenging to oversee a large building project.
- Penalty** (n.): punishment, consequence, drawback.
The penalty for robbing a bank is a long prison sentence.
- Merciless** (adj.): cruel, pitiless, harsh.
The critics were merciless in their review of the movie, finding very little to praise.
- Inaccurate** (adj.): inexact, mistaken, incorrect, wrong.
If an engineer is inaccurate when doing calculations, the consequences are serious and expensive.
- Manufacture** (v.): to produce, construct, create on a large scale.
Honda manufacture popular cars, in factories around the world.



Vocabulary 9

Learn the following words and then answer the questions.

- Script** (n.): writing, play, text, instructions for a play or movie.
Unfortunately, no original script of Shakespeare's plays is known to exist.
- Flexible** (adj.): adaptable, changes to different situations.
My father has a very flexible schedule, so he always has time to read to me.
- Cordial** (adj.): polite, pleasant, cheerful, welcoming.
Despite his global fame, many people say that Daniel Radcliffe is still cordial towards fans and paparazzi.
- Judgement** (n.): decision, conclusion, opinion, sense, logic.
Grandma's judgement is excellent; she always gives thoughtful advice.
- Comprehend** (v.): grasp, understand completely, take in.
When we bought the new car, Dad sat in the driver's seat trying to comprehend all the gadgets and buttons.
- Lever** (n.): handle or bar used to operate machinery, control, tool.
In the past, railway signals were operated using a large lever.
- Discussion** (n.): conversation, debate, argument.
The two politicians engaged in a heated discussion on the TV election programme.
- Excel** (v.): outclass, shine, surpass.
Some people seem to excel at languages, whilst others struggle to remember new vocabulary.
- Infrequent** (adj.): rare, uncommon, occasional.
Unfortunately, my favourite uncle lives far away, so his visits are infrequent.
- Disagreeable** (adj.): unpleasant, naty, irritable.
The weather on holiday was disagreeable; it rained almost every day.

Non-Verbal Reasoning

Section 1 — Changing Bugs

1. C

The bug's body gains a shape which is the same shape as its body (but smaller) and the same colour as its head.

2. B

The bug loses one pair of lines from its wings.

3. D

The tail gains two segments and reflects across.

4. B

The inner shape on the bug's body rotates 180 degrees and its outline becomes dotted instead of dashed.

Section 2 — Complete the Square Grid

1. A

Working from left to right, each grid square rotates 90 degrees clockwise.

2. B

Working from left to right, the shape moves diagonally upwards from the bottom left-hand corner of the first grid square, to the top-right corner of the third grid square. The shading of the shape alternates between black and white.

3. D

The third grid square in each row contains the star from the first grid square in front of the shape from the second grid square.

Section 3 — Reflect the Figure

1. B

*In options A and C, the rectangles are in the wrong order.
In option D, the bases of the rectangles are not in line.*

2. C

*Option A is a 90 degree anticlockwise rotation.
Option B is a 135 degree anticlockwise rotation.
Option D is a 180 degree rotation.*

3. A

*In option B, all the lines are the same height
and there is an extra square. In options C
and D, the lines are in the wrong order.*

4. D

*Option A is reflected, but the white circle is
positioned incorrectly. Option B is a 90 degree
clockwise rotation. Option C is not reflected
and the white circle has moved position.*

Section 4 — 3D Building Blocks

1. C

*The block on the left of set C moves to become the back
right-hand part of the figure on the left. The block on the right
of set C rotates 90 degrees anticlockwise in the plane of the
page. It then rotates towards you 90 degrees, top-to-bottom
to become the front left-hand part of the figure.*

2. D

*The block on the right of set D rotates towards you 90
degrees top-to-bottom and moves to become the bottom
left-hand part of the figure on the left. The block on the
bottom-left of set D moves to become the right-hand
part of the figure. The block on the top-left of set D
moves to become the top left-hand part of the figure.*

3. A

*The block on the bottom-left of set A rotates 90 degrees
in the plane of the page and moves to become the block at
the back of the figure on the left. The block on the right
of set A rotates 90 degrees right-to-left and moves
to become the front left-hand part of the figure.*

Section 5 — Complete the Pair

1. C

The two shapes swap shadings.

2. A

The top-right shape is removed.

3. D

The shading of the top inner shape changes from white to black and the whole figure rotates 90 degrees clockwise.

(17 marks)