

Mathematics

- 1) What does BIDMAS stand for? Brackets, Indices (Order), Division, Multiplication, Addition, Subtraction.
- 2) Define what is a prime number. A number with only 2 factors, one and itself.
- 3) Define what a lowest common multiple is. The lowest quantity that is a multiple of two or more given numbers.
- 4) Define what the highest common factor is. The highest number that can be divided exactly into each of two or more numbers.
- 5) What is an expression? A set of terms combined using the operations +, -, x or ÷ and does not have an equal sign.
- 6) What is an equation? A mathematical statement that shows that two mathematical expressions are equal.
- 7) What is a formula? A mathematical rule or relationship.
- 8) What is an identity? An equation which is always true, no matter what values are substituted.
- 9) What is the standard format for a quadratic equation? $ax^2 + bx + c$ (where a, b and c are constants).
- 10) What are the four parts of a graph called? Quadrants.
- 11) Is 1 a prime number, explain your reasoning. No. It only has one factor.
- 12) List the first 10 prime numbers. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29.
- 13) What is a parabola? A U-shaped plane curve where any point is at an equal distance from a fixed point.
- 14) What does similar mean in terms of shape? Shapes which are an enlargements of each other using a scale factor.
- 15) What are the roots of a quadratic graph? Where the line crosses the x-axis.
- 16) What does congruent mean? Two or more shapes are identical. The lengths of sides (edges) and sizes of angles must be equal.
- 17) Define the word factor. A factor is an integer that divides exactly into a whole number without a remainder.
- 18) Define the word multiple. A number you get when you multiply a certain number by an integer.
- 19) What is the formula for Pythagoras' theorem? $a^2 + b^2 = c^2$.
- 20) Where on a triangle would you find the hypotenuse? Opposite the right angle.
- 21) What shape should you use Pythagoras for? Right-angled triangles.
- 22) What do you use to draw an angle bisector? Compasses and a ruler.
- 23) What do you use to measure an angle? Protractor.
- 24) list the first 12 square numbers. 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144.
- 25) What must probability for all possible events add up to? 1 or 100%.
- 26) What operation do you use for the 'or' rule? Addition.
- 27) What operation do you use for the 'and' rule? Multiplication.
- 28) What is experimental probability? A probability that is determined on the basis of a series of experiments.
- 29) What is relative frequency? How often something happens divided by all trials.
- 30) What operation would you use when the word 'share' is used? Division.
- 31) What does ξ mean? The universal set.

- 32) What does \cup mean in Venn diagrams? **Union.**
- 33) What does \cap mean in Venn diagrams? **Intersection.**
- 34) What are perpendicular lines? **Lines that meet at a right angle (90°).**
- 35) What do you use to construct a perpendicular bisector? **Compasses and a ruler.**
- 36) What does bisect mean? **To divide into two equal parts.**

Autumn 1: Dystopian Extracts

- 1) **List 3 genre features of dystopian writing.** Propaganda used to control citizens; Information, independent thought and freedom are restricted; A leader is worshipped; Citizens have a fear of the outside world; Citizens live in a dehumanised state; Citizens conform to uniform expectations; Individuality is bad; The society is an illusion of a perfect utopian world.
- 2) **List 3 features of a dystopian setting.** Futuristic industrial cities; Destroyed natural habitat with little connection to nature; High levels of surveillance; Environments and weather that creates a strong sense of oppression or constraint.
- 3) **Define utopia.** An imagined place or state where everything is perfect; a peaceful world; a happy and cared-for society; a place where people are listened to and their best interests and well-being are acted on.
- 4) **Define dystopia.** An imagined place or state in which everything is unpleasant or bad; a strict regime; an oppressed society; a place where people are controlled and treated unfairly.
- 5) **Define totalitarianism.** A form of government with total control over citizens.
- 6) **Define communism.** A classless society where everything is owned communally (together).
- 7) **What is a socialist government?** A government which agrees with equality and distribution of wealth.
- 8) **What is a capitalist government?** A government which encourages people to make lots of money and keep it to themselves.
- 9) **Define surveillance.** Close observation.
- 10) **Define omnipresent.** Widespread/everywhere.
- 11) **What type of leader was Adolf Hitler?** A dictator.
- 12) **Define oppressive.** Harsh, authoritarian treatment.
- 13) **Define repressive.** Restricting freedom.
- 14) **Who was oppressed in the Handmaid's Tale?** Women.
- 15) **What is propaganda?** Information which can be biased or misleading to change a point of view.
- 16) **What is a dictatorship?** A government where one person has absolute control.
- 17) **What is an extended metaphor?** A metaphor that goes over several lines.
- 18) **What does 'stigma' mean?** A negative or disgraceful feeling towards something.
- 19) **What is the word for the use of informal language such as slang terms?** Colloquial.
- 20) **What does unity mean?** Bringing together.

Autumn 2: Sherlock Holmes

- 1) What period was Sherlock Holmes written and set? **Victorian period.**
- 2) Define Enlighten. **To provide someone with information and understanding.**
- 3) Define deduction. **Making a decision based on facts.**
- 4) In the Scandal of Bohemia, the client is the king of _____. **Bohemia.**
- 5) What is a periodical? **A magazine or newspaper published regularly.**
- 6) What was Doyle's job before writing? **Studied medicine.**
- 7) Define scandal. **Something which shocks people into thinking something is morally wrong.**
- 8) Which magazine did Doyle publish Sherlock Holmes in? **The Strand.**
- 9) What were crime levels like in the 19th century? **High, due to poverty.**
- 10) Where did Sherlock Holmes live? **221B Baker Street.**
- 11) Define introspective. **When you examine your own thoughts and feelings.**
- 12) How can you become part of the red headed league? **By having red hair.**
- 13) Who is Sherlock Holme's sidekick? **Dr Watson.**
- 14) Define dual nature. **To have a quiet thoughtful side and a manic side.**
- 15) What did Jezebel Wilson have to do? **Copy out the encyclopaedia.**
- 16) What language device is seen in this quotation: 'the most perfect reasoning and observing machine that the world has seen. **Metaphor.**
- 17) What does this quotation tell us about Irene Adler? 'I know that she will do it. You do not know her, but she has a soul of steel? **She is determined and cannot be intimidated.**
- 18) Why does Sherlock Holmes admire Irene Adler? **She outwits Sherlock Holmes.**
- 19) How does Sherlock Holme's have a dual nature? **He has two different personalities.**
- 20) Who is the female character in the Scandal of Bohemia? **Irene Adler.**
- 21) Who did Sherlock Holmes help? **Lower, middle class.**

Science

- 1) **What is health?** Health is defined as a state of complete mental, physical and social well-being.
- 2) **What is meant by the term "microorganism"?** A small organism that can cause disease.
- 3) **What specifically shaped molecules cover the surface of micro-organisms?** Antigen.
- 4) **Which microbes produced toxins?** Bacteria .
- 5) **Who is Ignaz Philipp Semmelweis?** Ignaz Philipp Semmelweis was a Hungarian gynaecologist who discovered that cleaning hospital equipment between patients would help to reduce the number of people getting ill or even worse dying.
- 6) **What is meant by antiseptic?** Preventing the growth of disease-causing microorganisms.
- 7) **What is the difference between an antibiotic and an antiseptic?** Antiseptics are used outside the body, but antibiotics are used inside the body. Antibiotics are drugs that can break down bacterial cell walls causing the bacterium to be destroyed.
- 8) **What is meant by a communicable disease?** Diseases that spread from one person to another.
- 9) **How are communicable diseases transmitted?** Direct contact, water, air, unhygienic cooking conditions and via a vector.
- 10) **How can transmission of communicable diseases be avoided?** Sterilising water, good personal hygiene, cooking food properly, isolation, contraception and vaccines.
- 11) **What is an antigen?** A chemical on the surface of a cell membrane. Every cell has antigens including our body cells.
- 12) **How do vaccines protect people against disease infections?** Vaccines introduce pathogenic antigens, which stimulate the white blood cells to produce antibodies and memory cells.
- 13) **What is Passive immunity?** This is when ready-made antibodies, from another source, are introduced to the body.
- 14) **What is Active immunity?** This is when the body is activated and produces the antibodies needed to fight an infection, when it see's the antigens/pathogen again.
- 15) **Define the term "risk factor for disease".** Risk factors are something that increases the chance of developing a disease.
- 16) **Why are proteins important in a balanced diet?** They are needed for growth and repair.
- 17) **What can happen to someone with too little vitamin A in their diet?** Their vision can deteriorate.
- 18) **What is a 'balanced' diet?** A diet with the different components presents in appropriate proportions.
- 19) **What is the addictive substance in tobacco smoke?** Nicotine.
- 20) **Which of the main substances in tobacco smoke causes cancer?** Tar.
- 21) **What can be a long-term effect of excessive alcohol?** Weight gain can be a long term effect of excessive alcohol.
- 22) **What is a major risk factor in developing skin cancer?** UV Radiation.
- 23) **How can cancer cells can spread around the body?** In the blood.
- 24) **What are the two types of tumour?** Benign and malignant.
- 25) **What is a pathogen?** A disease causing microbe.