

Worksheet: Introduction to Euclid's Geometry

IGCSE · Class 9 · Mathematics · 12 questions · 26 marks

Name: _____

Date: _____

Score: _____ / 26

Q1. Is 'the whole is greater than the part' an axiom, a postulate, or a theorem? *[1 mark]*

Q2. Which postulate lets us extend a line segment indefinitely? *[1 mark]*

Q3. Name three undefined terms in geometry. *[1 mark]*

Q4. How many lines can pass through (a) one given point, (b) two distinct points? *[1 mark]*

Q5. True or false: 'Two distinct lines can intersect at more than one point.' Justify. *[1 mark]*

Q6. If $AB = CD$ and $CD = EF$, prove that $AB = EF$. *[2 marks]*

Q7. If $AB = CD$, prove that $AB + BC = BC + CD$. *[2 marks]*

Q8. If C is the midpoint of segment AB, prove that $AC = (1/2) AB$. [3 marks]

Q9. State Euclid's Fifth Postulate and Playfair's Axiom. Show they are equivalent. [3 marks]

Q10. Prove that two distinct lines cannot have more than one common point. [3 marks]

Q11. Prove: If a point C lies between A and B on a line, then $AC + CB = AB$. Use the axioms. [4 marks]

Q12. Why was Euclid's Fifth Postulate considered controversial? Briefly describe non-Euclidean geometry. [4 marks]