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| **Test Case ID** | **1** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | 4th power Equation |
| AI Context Type | Maths Equation |
| AI Input Type | Single variable |
| Test Case Input | 2x4 – 2x3 – 14x2 + 2x + 12 = 0 |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | x = -2, x = -1, x = 1, x = 3 |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **2** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word Problem |
| AI Context Type | Non-Maths Equation |
| AI Input Type | Single variable |
| Test Case Input | If John has 25 cars, then what will be the new total number of cars if he sells out one from it? |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | 24 |
| Actual Result | Error (Unable to read the word problem) |
| Test Case Result | Fail |

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| **Test Case ID** | **3** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Cubic Equation |
| AI Context Type | Computer Written |
| AI Input Type | Single variable |
| Test Case Input | x3 – 1 = 0 |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | x = 1, x = −1/2 + (sqrt (3)/2)i, x = −1/2 - (sqrt (3)/2)i |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **4** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Quadratic Equation |
| AI Context Type | Human Written |
| AI Input Type | Single variable |
| Test Case Input |  |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | x = -5/2, x = -1 |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **5** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word Problem |
| AI Context Type | English |
| AI Input Type | Single variable |
| Test Case Input | If the value of x2 is 25, what is the value of x2 - 1? |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | x = 24 |
| Actual Result | Error (Unable to read the word problem) |
| Test Case Result | Fail |

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| **Test Case ID** | **6** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word Problem |
| AI Context Type | Non-English |
| AI Input Type | Single variable |
| Test Case Input | x3 విలువ 25 అయితే, x3 మైనస్ 1 విలువ ఎంత? |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | Cannot recognize the problem |
| Actual Result | Error (Unable to read the word problem) |
| Test Case Result | Pass |

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| **Test Case ID** | **7** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | 4th power equation |
| AI Context Type | Under Lowlight |
| AI Input Type | Single variable |
| Test Case Input |  |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | x = -2, x = -1, x = 1, x = 3 |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **8** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | 4th power equation |
| AI Context Type | Under Bright light |
| AI Input Type | Single variable |
| Test Case Input |  |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | x = -3, x = 2 |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **9** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Quadratic equation |
| AI Context Type | Maths Equation |
| AI Input Type | Multi variable |
| Test Case Input | 3x2y + 2xy2 − 5x + 7y − 9=0 |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | dy/dx = -(6xy+2y2 -5)/(3x2 +4xy+7) |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **10** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word problem |
| AI Context Type | Non-Maths Equation |
| AI Input Type | Multi variable |
| Test Case Input | If Steven has 9 pens and 10 pencils, then what will be the new total number of pens and pencils if he sells out one of each? |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | 8, 9 |
| Actual Result | Error (Unable to read the word problem) |
| Test Case Result | Fail |

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| **Test Case ID** | **11** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word problem |
| AI Context Type | Computer written |
| AI Input Type | Multi variable |
| Test Case Input | 4x2 - 3xy - 2y2 + x – y + 6 = 0 |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | dy/dx = (8x-3y+1)/(3x+4y+1) |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **12** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word problem |
| AI Context Type | Human written |
| AI Input Type | Multi variable |
| Test Case Input | x2 - 4xy + 3y2 = 0 |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | dy/dx = (2y - x)/(-2x + 3y) |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **13** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word problem |
| AI Context Type | English |
| AI Input Type | Multi variable |
| Test Case Input | If the value of x is 25 and y is 10, what is the value of xy? |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | 250 |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **14** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Word problem |
| AI Context Type | Non-English |
| AI Input Type | Multi variable |
| Test Case Input | x విలువ 25 మరియు y 10 అయితే, xy విలువ ఎంత? |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | Cannot recognize the problem |
| Actual Result |  |
| Test Case Result | Fail |

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| **Test Case ID** | **15** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Quadratic Equation |
| AI Context Type | Under Lowlight |
| AI Input Type | Multi variable |
| Test Case Input |  |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | dy/dx = -(2x + 3y)/(3(x + y)) |
| Actual Result |  |
| Test Case Result | Pass |

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| **Test Case ID** | **16** |
| Test Topic | Algebra (Polynomial Equations) |
| Test Description | Quadratic Equation |
| AI Context Type | Under Bright light |
| AI Input Type | Multi variable |
| Test Case Input |  |
| Performed By | Harish Marepalli |
| Execution Date | 20th November 2023 |
| AI Output Type | Value-based |
| Expected Result | dy/dx = -(19y + 8x)/(19x + 4y) |
| Actual Result |  |
| Test Case Result | Pass |