**Algebra 1 Baskets of Tomatoes – Anchor Annotations**

**A1 Score 4**

Part A: The student provided two correct equations for the system of equations (*3x + 5y = 36* and *x + y = 8*). The student also provided a correct solution process by solving the equation *x + y = 8* for *y* (*y = 8 – x*), substituting (*8 – x*) for *y* in the first equation [*3x + 5(8 – x) = 36*], and solving the equation for *x* (*x = 2*). The student then substituted the value of 2 for *x* in the equation *x + y = 8* (*2 + y = 8*) and solved for *y* (*y = 6*). Although not required, the student described what the solution represents (*The customer bought 2 small baskets and 6 large baskets*). [3 points]

Part B: The student provided a correct and complete explanation as to why the system of equations (*x = 2.5* and *y = 7.5*) demonstrates that the claim is incorrect (*The information states that only whole number of baskets may be purchased. This customer’s claim would lead him to buy 2.5 small baskets and 7.5 large baskets, and this cannot be done).* [1 point]

**A2 Score 4**

Part A: The student provided two correct equations for the system of equations (*3x + 5y = 36* and *x + y = 8*). The student also provided a correct solution process by solving the equation *x + y = 8* for y and writing the equation in slope-intercept form (*y = -x + 8*). The student substituted the value of y in the second equation (*3x – 5x + 40 = 36*) and solved for *x* (*x = 2*). The student explained they substituted the value of 2 for *x* in the first equation (*y = -2 + 8*) and solved for *y* (*which equals 6*). Although not required, the student described what the solution represents (*So the customer purchased 2 small baskets (x) and 6 large baskets (y)*). [3 points]

Part B: The student provided a correct and complete explanation as to why the system of equations demonstrates that the claim is incorrect (*If you use the substitution method on this systems of equation, you end up with -2x = -5 which cannot be simplified any further because only whole number of baskets may be purchased*). [1 point]

**A3 Score 3**

Part A: The student provided two correct equations for the system of equations (*x + y = 8* and *3x + 5y = 36*). The student also provided correct but incomplete support by showing only a “check” of the correct solution (*x = 2, y = 6; 2 + 6 = 8; 3 \* 2 + 5 \* 6 = 36*) without showing how the values of were determined. The student provided the correct solution (*x = 2, y = 6*). [2.5 points]

Part B: The student provided a correct but incomplete explanation by writing a correct system of equations that describes the purchase (*x + y = 10* and *3x + 5y = 45*) with an incomplete explanation (*because the numbers do not add up and multiply right there is no way to get to 45 dollars using the 2 equations*) that does not explain the reason why *there is no way to get to 45 dollars using the 2 equations.* [0.5 point]

**A4 Score 3**

Part A: The student provided two correct equations for the system of equations (*3x + 5y = 36* and *x + y = 8*). The student also provided correct but incomplete support by showing only a “check” of the correct solution [*3(2) + 5 (6) = 36, 6 + 30 = 36, 36 = 36, 2 + 6 = 8, 8 = 8*) without showing how the values were determined. The student provided the correct solution (*2 small and 6 large*). [2.5 points]

Part B: The student provided a correct but incomplete explanation by writing a correct system of equations that describes the purchase (*x + y = 10* and *3x + 5y = 45*) with an incomplete explanation (*This claim is incorrect because if you try to buy 10 baskets at 5 dollars each, the most expensive, you can only get to 9 baskets costing 45 dollars. And to buy all small basket you would only spend 30 for 10. No combination of baskets could be both 45 dollars with 10 baskets bought*) that does not explain the reason why the customer cannot purchase the combination with $45. [0.5 point]

**A5 Score 3**

Part A: The student provided only one of two correct equations for the system of equations (*$3x + $5y = $36*). The student also provided correct but incomplete support by showing only a “check” of the correct solution (*3 × 2 = 6, 5 × 6 = 30, and 30 + 6 = 36*) without showing how the values were determined. The student provided the correct solution (*2 small baskets and 6 large baskets*). [2 points]

Part B: The student provided a correct and complete explanation as to why the claim is incorrect by first exhausting all possible whole-number solutions (*if you plug in any pair of numbers adding up to (10) . . . you couldn’t get 45*) and then describing why the actual solution does not work (*you would have to plug in decimals, but you could only use whole numbers*). [1 point]

**A6 Score 2**

Part A: The student provided only one of two correct equations for the system of equations (*$3x + $5y = $36*). The student also provided correct but incomplete support by explaining only a “check” of the correct solution (*6 large baskets would equal $30, and that 2 small baskets would equal $6, so I put them together and got $36*) without showing how the values were determined. The student provided the correct solution (*y = 6, x = 2*). [2 points]

Part B: The student provided a correct but incomplete explanation which included one of the two correct equations for the system of equations that describes the purchase (*$3x + $5y = $45 isn’t true because if you would take 5\*9 you will get 45 and you would have to get 10 baskets. If you try 5\*8 you will get $40 but you have to get $45 so you will try and add the 2 small baskets to hit the limit of 10 baskets. but when you try and do that with a small basket costing $3 2 of them would equal $6 so the 8 large baskets plus the 2 small baskets will come out to be $46*). The student only tested a solution of (*2, 8*) which did not work. [0.5 point]

**A7 Score 2**

Part A: The student provided only one of two correct equations for the system of equations (*3x + 5y = 36*).The student also provided correct but incomplete support in the form of a chart of possible solutions. The student provided an incorrect solution as three solutions are identified (two of which only satisfy one of the equations for the system of equations). [1 point]

Part B: The student provided a correct and complete explanation as to why the system of equations demonstrates that the claim is incorrect (*3x + 5y = 45, If he purchases 10 baskets the price would be even no matter what way he arranges them. The closest he could pay to $45 is $46 and $48*). The student uses a chart and exhausts all the possibilities of combinations to demonstrate it is impossible to arrive at a total of $45 using whole numbers. [1 point]

**A8 Score 1**

Part A: The student provided no correct equations. The student provided correct but incomplete support by showing only a “check” of the correct solution (*6 × 5 + 2 × 3 = 36*) without showing how the values were determined. The student provided the correct solution (*x = 2 small, y = 6 large*). [1.5 points]

Part B: The student provided an incorrect and incomplete explanation by only testing one possible solution (*The customer can not have paid for the baskets because 9 large baskets equals $40 plus a small basket is $48 so the costomer would go over the price range and couldn’t have gotton 10 baskets the price of $45*) and does not explain why the claim is incorrect. [0 points]

**A9 Score 1**

Part A: The student provided only one of two correct equations for the system of equations *($36 = $3x + $5y*). The student provided correct but incomplete support by showing only a “check” of the correct solution (*$36 = $2(2) + $5(6)*) without showing how the values were determined. The student also provided the solution (*2, 6*); however the solution was embedded in the work. [1.5 points]

Part B: The student provided an incorrect explanation (*$45 $3(5) + $5(3); 105x + 3y*) which does not explain why the claim is incorrect. [0 points]

**A10 Score 1**

Part A: The student did not provide any equations for the system of equations. The student did provide one correct solution (*2 small baskets*) without any support demonstrating how this solution was determined. [0.5 point]

Part B: The student provided an incorrect explanation (*he buy 3 large baskets and 10 small baskets*) which exceeds the total number of baskets given in the prompt. [0 points]

**A11 Score 0**

Part A: The student provided no correct equations, instead writing *(x)(y) = 36*. The student provided incorrect support by substituting the prices of each small basket ($3) and each large basket ($5) into the provided equation: *(3)(5) = 36*. The student provided an incorrect solution (*12 small baskets and 0 large baskets*) with no support to demonstrate how this solution was determined. [0 points]

Part B: The student provided an incorrect explanation since the student determined the average price per basket (*if you take 45/10 you would get 4.5*), which does not explain why the claim is incorrect. [0 points]

**A12 Score 0**

Part A: The student provided an incorrect equation (*3x + 5x + 8y = 36*). The student provided incorrect support by simplifying their equation (*8x + 8y = 36*). The student provided an incorrect solution (*x = 4.5, y = 4.5*) with no support to demonstrate how this solution was determined. [0 points]

Part B: The student provided an incorrect explanation by determining the average price per basket (*10x/10 = 45/10, x = 4.5*) which does not explain why the claim is incorrect. [0 points]