Q1. /3
2 marks for process
1 mark for final conclusion: inconsistent

Q2. /3
2 marks for process
1 mark for final answer: \[\begin{bmatrix} 2 \\ 1 \end{bmatrix}\]

Q3. /3
2 marks for process
1 mark for final answer: consistent or give the correct unique solution

Q4. /3
2 marks for process
1 mark for final answer: \( h = -4 \)

Q5. /3
2 marks for process, with end result of row reduction \[\begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & -2 \\ 0 & 0 & 1 & 2 \end{bmatrix}\]
1 mark for correct pivot position/ column

Q6. /3
1 mark for row reduction
1 mark for \( X_1 = 4, X_2 = 3 \)
1 mark for \( X_3 = \text{free} \)

Q7. /3
2 marks for process
1 mark for correct final answer

Q8. /2
1 mark for “consistent”
1 mark for any reasonable explanation

Q9. /2
1 mark for “consistent”
1 mark for any reasonable explanation
Q10. 13
  1 mark for writing \([a, a_2, a_3; b]\)
  1 mark for row reduction with result
  \[
  \begin{bmatrix}
  1 & 0 & 5 & 12 \\
  0 & 1 & 4 & 13 \\
  0 & 0 & 0 & 10
  \end{bmatrix}
  \]
  1 mark for any reasonable conclusion

Q11. 13
  same marking scheme as Q10

Q12. 13
  1 mark for writing the vectors as an augmented matrix
  1 mark for row reduction
  1 mark for getting \(h=-2\)

Q13. 15
  1 mark for each correct T/F and justification (for false)