Practice worksheet | Linear models and optimisation

Integer constraints and interpreting an optimal solution

Name: _____ Date: _____

6 questions | 12 marks

1. Find the greatest integer x with $3x \le 20$ and $x \ge 0$. [2 marks]

2. At least 25 items are packed in boxes of 6. Find the least number of boxes. [2 marks]

3. Maximise $P = 2x + 3y$ for non-negative integers with $x + y \le 5$, $y \le 3$. [2 marks]

4. Is $(2, 4)$ feasible for $2x + y \leq 7$, $x + 2y \leq 9$? [2 marks]

5. Two integer plans share the greatest profit. What should a recommendation explain? [2 marks]

6. For $x = 0, 1, 2, 3$, the largest feasible integer y-values are 4,3,2,0. Maximise $P = 5x + 4y$. [2 marks]