1. 1

2. $(2, 0)$

3. If the second constraint ($y \geq 0$) is removed, the optimum objective value becomes infinity
   If the first constraint ($x \geq 1$) is removed, the optimum objective value remains unchanged

4. Let $A = 1, B = 1, C = 3$.
   $A * eq1 + B * eq2 + C * eq3$ gives us $4x + 4y + 4z \geq 6$.
   Therefore, $x + y + z \geq 1.25$, so 1.1 cannot be a valid answer.

5. The optimum objective value is 1.25
   The constraints $x, y, z \geq 0$ are irrelevant (they can be removed without affecting the opt objective value)