MATH 113: DISCRETE STRUCTURES
HOMEWORK DUE WEDNESDAY WEEK 5

Problem 1. In a room full of musicians, there are 10 who play guitar, 6 who play drums, and 6 who play bass. There are 3 who play both guitar and drums, 4 who play both guitar and bass, and 3 who play both drums and bass. There are 2 people who play all three instruments. How many musicians are there in total (with explanation)?

Problem 2. Use the principle of inclusion/exclusion to find how many numbers in $\underline{100} = \{1, 2, \ldots, 100\}$ are multiples of 2, 3, 5, or 7? (Show your work.)