UNIT 13 EXERCISES 11-15

VENN

2016A

11. **Answer (E):** Because 42 students cannot sing, $100 - 42 = 58$ can sing. Similarly, $100 - 65 = 35$ can dance, and $100 - 29 = 71$ can act. This gives a total of $58 + 35 + 71 = 164$. However, the students with two talents have been counted twice in this sum. Because there are 100 students in all, $164 - 100 = 64$ students must have been counted twice.

OR

Consider the three sets referred to in the problem: those who cannot sing, those who cannot dance, and those who cannot act. Students with one talent are in two of those sets, whereas students with two talents are in only one. Thus the total $42 + 65 + 29 = 136$ counts all students twice except those with two talents. The number of students with two talents is therefore $2 \cdot 100 - 136 = 64$.