

Homework Solutions

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Exercise 7

- (a) Yes. The previous total of all 10 ages was $10 \times 35 = 350$. The new total is $350 + 32 = 382$ and there are now 11 people in the room, so the new mean is $\frac{382}{11} = 34.7$ years.
- (b) No. We do not know whether 32 is in the lower half or the upper half. The room could have had one 30-year-old, eight 35-year-olds, and one 40-year-old for a median of 35, in which case the new median would still be 35. Or the room could have had five 30-year-olds and five 40-year-olds for a median of 35, in which case the new median would be 32 (the middle value). We see from these examples that we cannot say with any certainty what the new median would be.