

6. Use techniques similar to that in Question 5 to calculate
- (a) $11^2 + 12^2 + \dots + 24^2$
 - (b) $7^3 + 8^3 + \dots + 15^3$
 - (c) $21 + 23 + \dots + 61$
7. Calculate $21 + 23 + 25 \dots + 161$
8. Prove that $\sum_{r=0}^{2n} r = n(2n + 1)$ and hence that $\sum_{r=n+1}^{2n} r = \frac{1}{2}n(3n + 1)$.