







19) (a)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

(b)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

(c)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

20) (a)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

(b)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

(c)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

21) (a)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

(b)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$

(c)  $\sum_{k=1}^n k^2$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$   $\sum_{k=1}^n k^2 = \frac{n(n+1)(2n+1)}{6}$