$$\sum_{k=-\infty}^{\infty} \cos(k\pi/n)\cos(k\pi/s)$$

$$= (1/2)\sum_{k=-\infty}^{\infty} \{\cos[k\pi(1/n+1/s)] + \cos[k\pi(1/n-1/s)]\}$$

$$= 1 + \sum_{k=1}^{\infty} \{\cos[k\pi(1/n+1/s)] + \cos[k\pi(1/n-1/s)]\}$$

$$\downarrow \quad \sum_{k=1}^{N} \cos(ka) = \frac{\sin[(N+1/2)a]}{2\sin(a/2)} - \frac{1}{2}$$

$$= (\infty + 1/2)\delta_{ns}$$

$$\sum_{k=-\infty}^{\infty} \sin(k\pi/n)\sin(k\pi/s)$$

$$= (1/2)\sum_{k=-\infty}^{\infty} \{\cos[k\pi(1/n-1/s)] - \cos[k\pi(1/n+1/s)]\}$$

$$= \sum_{k=1}^{\infty} \{\cos[k\pi(1/n-1/s)] - \cos[k\pi(1/n+1/s)]\}$$

$$= (\infty + 1/2)\delta_{ns}$$