$F(M) = F(x_p - 1, y_p + \frac{1}{2})$

$= A(x_p - 1) + B(y_p + \frac{1}{2}) + C$

$F(M_W) = F(x_p - 2, y_p + \frac{1}{2})$

$= A(x_p - 2) + B(y_p + \frac{1}{2}) + C$

$F(M_{NW}) = F(x_p - 2, y_p + \frac{3}{2})$

$= A(x_p - 2) + B(y_p + \frac{3}{2}) + C$

We know,

$d_{init} = F(M) - F(P)$

$= A(x_p - 1) + B(y_p + \frac{1}{2}) + C - Ax_p - By_p - C$

$= Ax_p - A + By_p + \frac{B}{2} + C - Ax_p - By_p - C$

$= \frac{B}{2} - A$

$= -\frac{dx}{2} - dy \quad [\because A = dy \text{ and } B = -dx]$

Again,

$d_W = F(M_W) - F(M)$

$= A(x_p - 2) + B(y_p + \frac{1}{2}) + C - A(x_p - 1) - B(y_p + \frac{1}{2}) - C$

$= Ax_p - 2A - Ax_p + A$

$= -A$

$= -dy \quad [\because A = dy]$

And,

$d_{NW} = F(M_{NW}) - F(M)$

$= A(x_p - 2) + B(y_p + \frac{3}{2}) + C - A(x_p - 1) - B(y_p + \frac{1}{2}) - C$

$= Ax_p - 2A + By_p + \frac{3B}{2} - Ax_p + A - By_p - \frac{B}{2}$

$= B - A$

$= -dx - dy \quad [\because A = dy \text{ and } B = -dx]$