(a) 0

(b) Leaving out A(1, 1.5)

Closest Neighbour ⇒ B(2, 2)

Squared Error = $(1.5 - 2)^2 = 0.25$

Leaving out B(2, 2)

Closest Neighbour ⇒ A(1, 1.5)

Squared Error = $(2 - 1.5)^2 = 0.25$

Leaving out C(4, 1.5)

Closest Neighbour = B(2, 2)

Squared Error = $(1.5 - 2)^2 = 0.25$

$$MSE = \frac{0.25 + 0.25 + 0.25}{3}$$

$$= 0.25$$

For A (1, 1.5)

Nearest Neighbours

B(2, 2) C(4, 1.5)

$$\hat{y}_A = \frac{2+1.5}{2} = \frac{3.5}{2} = 1.75$$

Squared Error $= (1.5 - 1.75)^2$

$= 0.0625$

For B(2, 2)

Nearest Neighbour = A(1, 1.5)
C(4, 1.5)

$$\hat{y}_B = \frac{1.5+1.5}{2} = 1.5$$

Squared Error $= (2 - 1.5)^2$

$= 0.25$

For C(4, 1.5)

Nearest Neighbor A(1, 1.5) B(2, 2)

$$\hat{y}_C = \frac{1.5+2}{2} = 1.75$$

Squared Error $= (2 - 1.75)^2 = 0.0625$

$$MSE = \frac{0.0625 + 0.25 + 0.0625}{3} = 0.125$$