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Aufgabe 1

a) Bilde Inkrement Δ_{NE}.

$M = (x_p + 1, y_p + \frac{1}{2})$ $M_{new} = (x_p + 2, y_p + \frac{3}{2})$

Also: $F(M) = dy(x_p + 1) - dx(y_p + \frac{1}{2}) + B dx$
$F(M_{new}) = dy(x_p + 2) - dx(y_p + \frac{3}{2}) + B dx$

$\Rightarrow F(M_{new}) - F(M) = \underline{\underline{dy - dx}} =: \Delta_{NE}$.

b) Punktverdoppelung! Also: $\Delta_{NE} = 2dx - dy$. $\Delta_E = 2dy$.

Pseudocode: $d_{start} = 2dx - dy$ = ~~abbp~~

```
For all (y) {
  if (d > 0) {
    x_p++ , y_p++
    d += Δ_NE.
  }
  else {
      y_p++.
      d   += ΔNE
    }
}
```

c) (0,0) (3,5)

① Iration $d = -4$ | ② Iration $d = 6$ | ③ Iration $d = 2$

$y = 1$ $d = 6$ | $x = 1$ $y = 2$ $d = 2$ | $x = 2$ $y = 3$ $d = -2$

④ Iration $d = -2$ | ⑤ Iration $d = 8$

$x = 2$ $y = 4$ $d = 8$ | $x = 3$ $y = 5$ $d = 4$