



(1) $|m| < 1$
 $A_x < B_x$
 $A_y < B_y$

* هنسب خطنا الثمن الخط

$(x_1, y_1) \rightarrow (x_2, y_2)$

$|m| < 1$ $M = \frac{y_2 - y_1}{x_2 - x_1}$ IF $|m| < 1$

IF $|m| > 1$ \rightarrow $(y_1, x_1) \rightarrow (y_2, x_2)$

* Algorithm $P_0 = 2dy - dx$

P_k $\begin{cases} \text{نفس الـ } y < 0 \\ P_{k+1} = P_k + 2dy \\ \text{نزد الـ } y > 0 \end{cases}$ [نفس الـ } نز 1]

$P_{k+1} = P_k + 2dy - 2dx$

ex) $(20, 10) \rightarrow (25, 14)$

$$m = \frac{14 - 10}{25 - 20} = \frac{4}{5} = 0.8$$

$|m| < 1 \quad \checkmark$

$$P_0 = 2dy - dx = 2 \times 4 - 6 = 3 \neq$$

$$dx = 25 - 20 = 5$$

$$dy = 14 - 10 = 4$$

$$2dy = 8 \quad \#$$

$$2dy - 2dx = 2xy - 2x5 = -2 \neq$$

* سوال X الیہ احاطہ موجبہ وید مائل صوا وود 1 انقلا
* سوال 10 الیہ احاطہ موجبہ وید مائل صوا وود 1 انقلا

k	P_k	x	y	(x, y)
0	3	20	10	(20, 10)
1	1	21	11	(21, 11)
2	-1	22	12	(22, 12)
3	7	23	12	(23, 12)
4	5	24	13	(24, 13)
5	3	25	14	(25, 14)

ex₂ (10, 20) → (14, 25)

$$M = \frac{25-20}{14-10} = \frac{5}{4} = 1.25 \quad M > 1 \quad (\text{high})$$

$$(20, 10) \rightarrow (25, 14)$$

$$M - \frac{14 - 10}{25 - 10} = \frac{4}{5} = 0.8$$

ex 3

(25, 10) (14, 20)

$$M = \frac{20-10}{14-25} = \frac{10}{-11} \quad |m| < 1 \quad \checkmark$$

$$\ast) dx = 14 - 25 = -11 \quad \text{Set } dx = 11, \text{ decrease } x$$

$$\ast) dy = 20 - 10 = 10$$

$$\ast) 2dy = 20$$

$$\ast) P_0 = 2dy \cdot dx$$

$$\ast) 2dy - 2dx = 20 - 22 = -2$$

$$= 20 - 11 = 9$$

k	P	x	y	
0	9	25	10	(25, 10)
1	7	24	11	
2	5	23	12	
3	3	22	13	
4	1	21	14	
5	-1	20	15	
6	19	19	15	
7	17	18	16	
8	15	17	17	
9	13	16	18	
10	11	15	19	
11	9	14	20	(14, 20)

ex) (10, 15) (5, 3)

$$M = \frac{3-15}{5-10} = \frac{-12}{-5}$$

$$M > 1$$

ليس نقطة

(15, 10) (3, 5)

* $dx = 3 - 15 = -12$ Set $dx = 12$ decrease x

* $dy = 5 - 10 = -5$ Set $dy = 5$ decrease y

* $P_0 = 2dy - dx = 10 - 12 = -2$

* $2dy = 10 < 0$

* $2dy - 2dx = 10 - 24 = -14 \geq 0$

K	P	x	y	
0	-2	15	10	(10, 15)
1	8	14	10	(10, 14)
2	-6	13	9	(9, 13)
3	4	12	9	(9, 12)
4	-10	11	8	(8, 11)
5	0	10	8	(8, 10)
6	-14	9	7	(7, 9)
7	-4	8	7	(7, 8)
8	6	7	7	(7, 7)
9	-8	6	6	(6, 6)
10	2	5	6	(6, 5)
11	-12	4	5	(5, 4)
12	-2	3	5	(5, 3)