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COORDINATE GEOMETRY

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47. Find the area of quadrilateral formed by $x+|y|=8$?

रेखा $x+|y|=8$ रेखा द्वारा बने त्रिभुज का क्षेत्रफल ज्ञात करें?

$|x|+|y|=k$

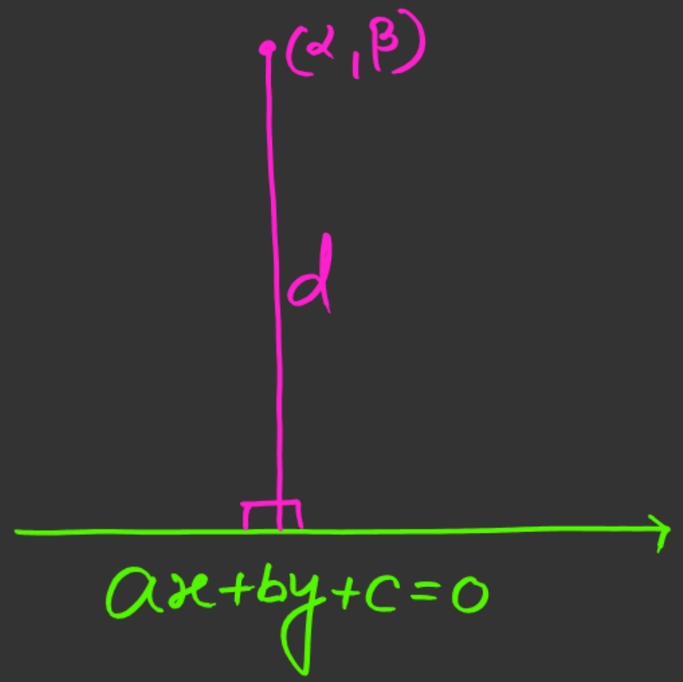
$\square Area = 2k^2$

$|x|+y=k$

$x+|y|=k$

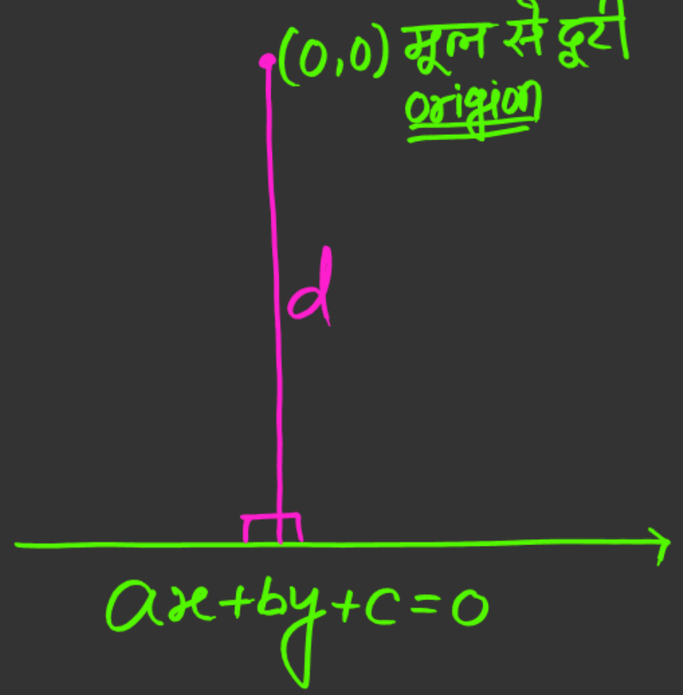
$\Delta Area = k^2$

perpendicular Distance ⇒ लम्बवत दूरी



$$d = \left| \frac{a\alpha + b\beta + c}{\sqrt{a^2 + b^2}} \right|$$

perpendicular Distance ⇒ लम्बवत दूरी

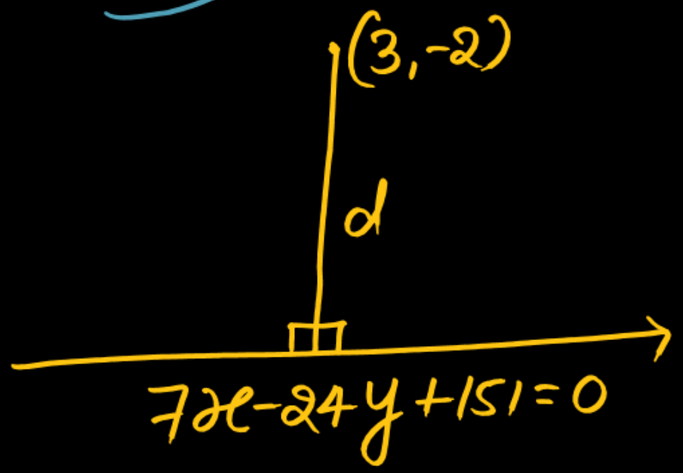


$$d = \left| \frac{ax0+bx0+c}{\sqrt{a^2+b^2}} \right| = \left| \frac{c}{\sqrt{a^2+b^2}} \right|$$

48. What is the distance of the line 7x- 24y + 151 = 0 from the point (3, -2)?

समीकरण 7x- 24y +151 = 0 की दूरी, बिंदु (3, -2) से कितनी होगी?

a)7.8 b)8.8 c)9.2 d)8.6



151
69
220

$$d = \left| \frac{a\alpha + b\beta + c}{\sqrt{a^2 + b^2}} \right|$$

$$d = \left| \frac{7 \times 3 - 24 \times -2 + 151}{\sqrt{7^2 + 24^2}} \right|$$

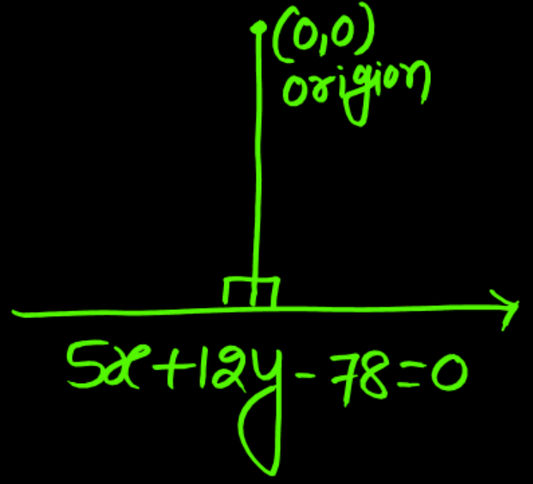
7, 24, 25 → Triplet's

$$d = \frac{21 + 48 + 151}{25} = \frac{220 \times 4}{25 \times 4} = \frac{880}{100} = 8.8$$

49. Find the distance of a line $5x+12y-78=0$ from origin?

मूल से $5x+12y-78=0$ रेखा की दूरी ज्ञात कीजिये?

a)5 units b)6units c)6.5units d)4units



$$d = \left|\frac{c}{\sqrt{a^2+b^2}}\right|$$

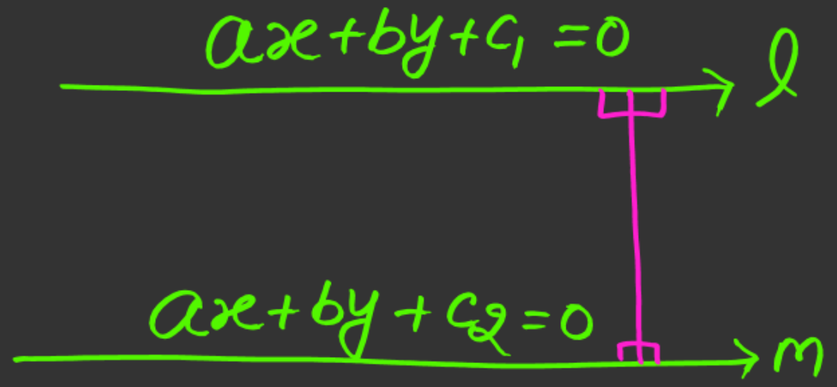
$$d = \left|\frac{-78}{\sqrt{5^2+12^2}}\right|$$

$$= \frac{78}{13} = 6 \text{ Unit}$$

Concept

दो समांतर रेखा के बिच की दूरी

Distance b/w two parallel lines



$l \parallel m$

$$d = \left| \frac{c_1 - c_2}{\sqrt{a^2 + b^2}} \right|$$

50. What is the distance between two parallel lines $15x + 8y - 39 = 0$ and $15x + 8y + 46 = 0$?

दो समांतर रेखाओं $15x + 8y - 39 = 0$ तथा $15x + 8y + 46 = 0$ के बीच की दूरी कितनी होगी?

$ax+by+c_1=0$ $ax+by+c_2=0$

(a) 4 इकाई (b) 5 इकाई

(c) 6 इकाई (d) $\frac{65}{17}$ इकाई

$$d = \left|\frac{c_1 - c_2}{\sqrt{a^2+b^2}}\right| = \left|\frac{-39-46}{\sqrt{15^2+8^2}}\right| = \left|\frac{-85}{17}\right| = |-5|$$

$= 5$ Ans.

Triplets

3	4	5
5	12	13
6	8	10
7	24	25
8	15	17
9	40	41
10	24	26
11	60	61
12	35	37

51. Find the foot of a perpendicular of a point (-10,-3) to line 2x+5y-23=0?

बिंदु (-10,-3)से रेखा 2x+5y-23=0 पर डाले गए लम्ब के पाद बिंदु ज्ञात करे?

a)(4,3) b)(5,-3) c)(-6,7) d)(-5,7)

Foot of a perpendicular

लम्बपाद बिन्दु