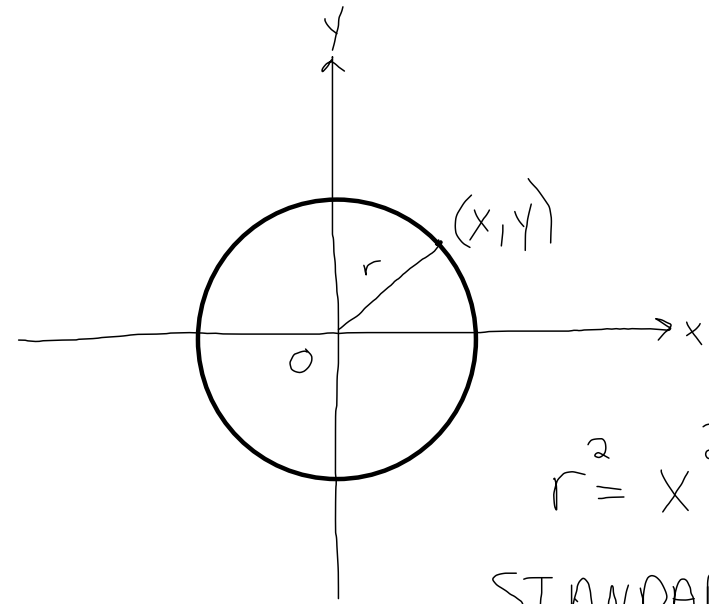
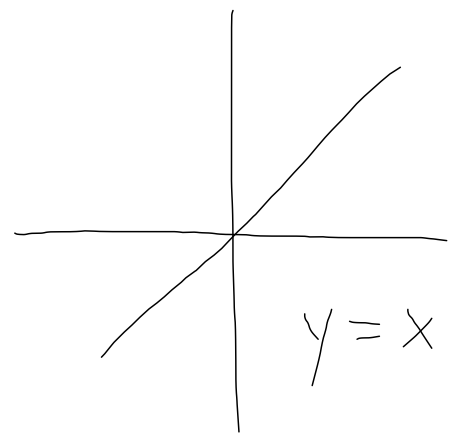
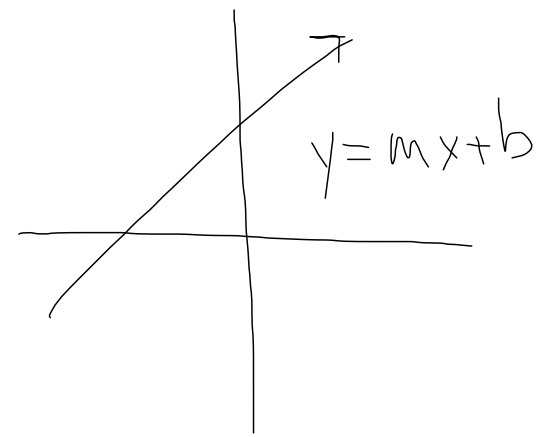


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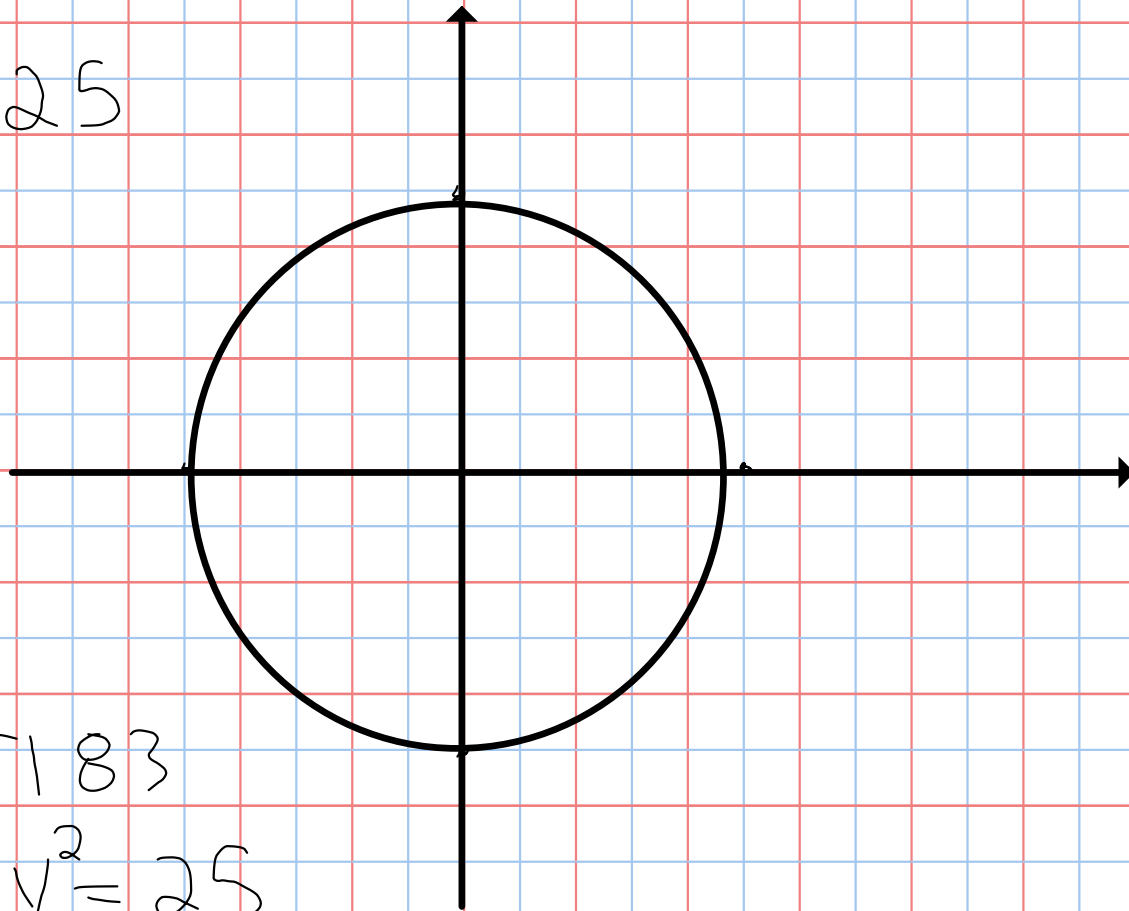
THE CIRCLE



$$r^2 = x^2 + y^2$$

STANDARD FORM

$$x^2 + y^2 = 25$$



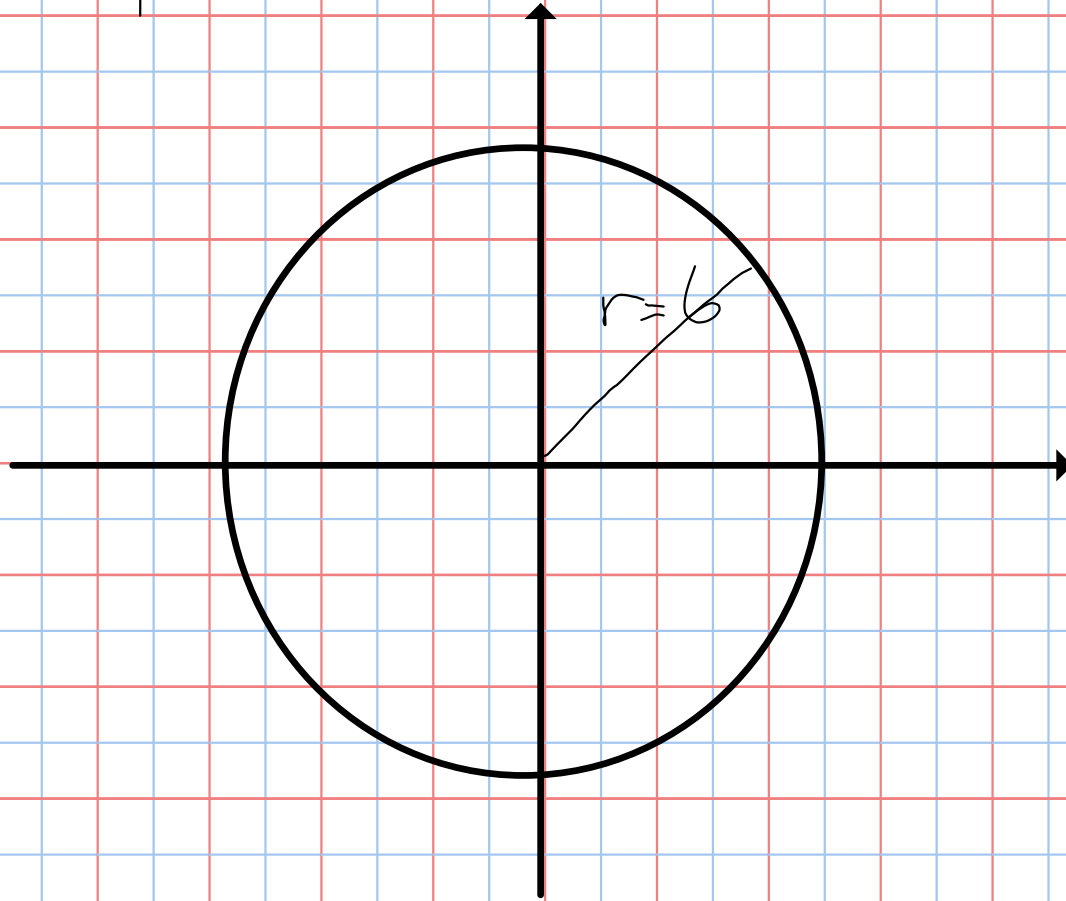
FOR T183

$$x^2 + y^2 = 25$$

$$y^2 = 25 - x^2$$

$$y = \pm \sqrt{25 - x^2}$$

$$x^2 + y^2 = 36$$



NOT CENTERED AT $(0,0)$

CENTERED AT (h,k)

$$x^2 + y^2 = r^2 \text{ BECOMES}$$
$$(x-h)^2 + (y-k)^2 = r^2$$

Ex. $C(3,-4)$ $r=5$

$$(x-3)^2 + (y+4)^2 = 25$$

STANDARD FORM

$$x^2 - 6x + 9 + y^2 + 8y + 16 = 25$$

$$x^2 + y^2 - 6x + 8y = 0$$

GENERAL FORM

Ex. WRITE THE EQUATION OF
THIS CIRCLE

$C(-2,0)$ $r=6$

$$(x+2)^2 + y^2 = 36$$

Ex. FIND THE CENTRE AND THE
RADIUS OF

$$x^2 - 10x + y^2 + 2y + 17 = 0$$

$$x^2 - 10x + 25 + y^2 + 2y + 1 = -17$$

+25+1

$$(x - 5)^2 + (y + 1)^2 = 9$$

$$\left((5, -1) \quad r = 3 \right)$$

Ex #21 Q# 1-10