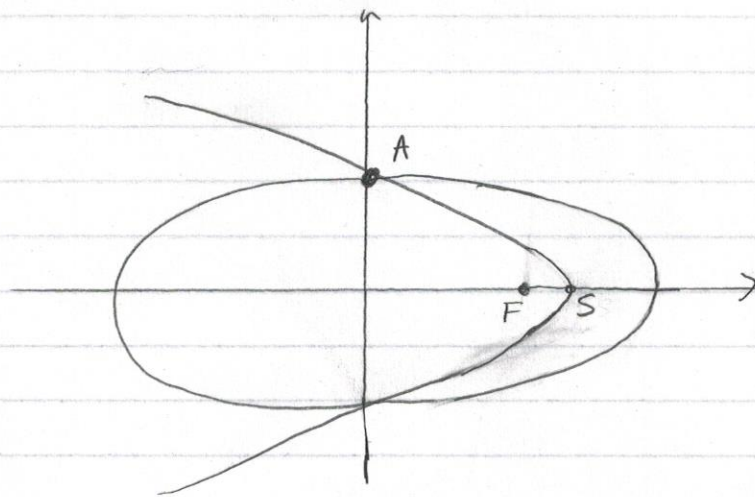


Question 1



$$\text{Ellipse } \frac{x^2}{36} + \frac{y^2}{12,96} = 1$$

pt S Sommet parabole =
Foyer ellipse

F = Foyer de la parabole

Trouver les coordonnées du Foyer de la parabole

Ellipse:

$$a = 6$$

$$b = 3,6 \Rightarrow A(0; 3,6)$$

$$a^2 = b^2 + c^2$$

$$36 = 12,96 + c^2 \Rightarrow c = \sqrt{23,04} = 4,8 \Rightarrow S(4,8; 0)$$

Parabole $y^2 = -4c(x - 4,8)$

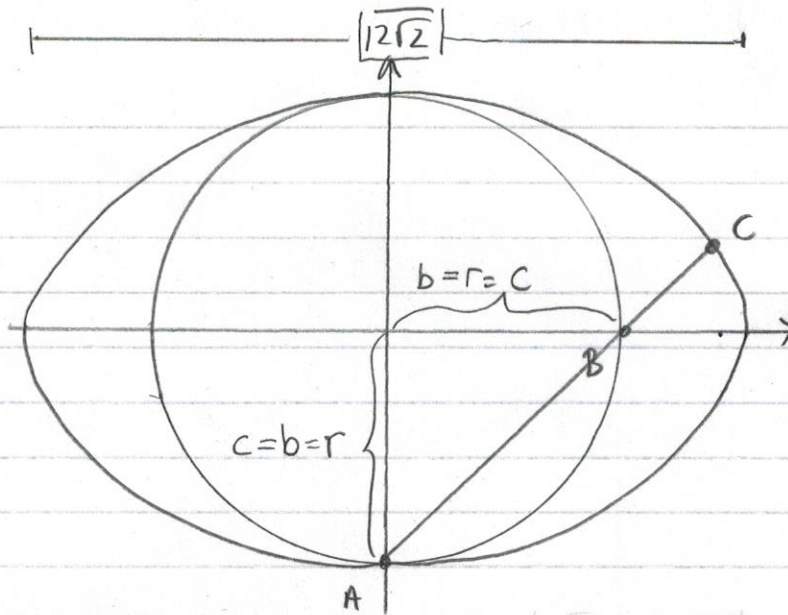
$$12,96 = -4c(-4,8) \leftarrow A(0, 3,6)$$

$$2,7 = -4c$$

$$y^2 = -2,7(x - 4,8) \rightarrow c = 0,675 \Rightarrow F(4,8 - 0,675, 0)$$

$$\boxed{F(4,125, 0)}$$

Question 2



B = Foyer de l'ellipse

Trouver les coordonnées du point C

1) Ellipse : $a = \frac{12\sqrt{2}}{2} = 6\sqrt{2}$

2) Cercle : Comme B est Foyer de l'ellipse \Rightarrow rayon = c (horizontal)
 \Rightarrow rayon = b (vertical)

3) Ellipse $a^2 = b^2 + c^2$

$(6\sqrt{2})^2 = b^2 + b^2$ car $c = b =$ rayon du cercle !!!

Ellipse $72 = 2b^2$

$36 = b^2 \Rightarrow b = 6$

4) Droite AC : $y = x - 6$ car tx de variation de 1 et ordonnée = "-b" = -6

5) Règle Ellipse $\frac{x^2}{72} + \frac{y^2}{36} = 1$

a) Trouvons pt C substitution $\frac{x^2}{72} + \frac{(x-6)^2}{36} = 1$

$\frac{x^2}{72} + \frac{x^2 - 12x + 36}{36} = 1$

$x^2 + 2(x^2 - 12x + 36) = 72$

$x^2 + 2x^2 - 24x + 72 = 72$

$3x^2 - 24x = 0$

$3x(x - 8) = 0 \Rightarrow x = 0$ ou $x_c = 8$ $y_c = 8 - 6 = 2$

$C = (8, 2)$