$$\begin{cases} \dfrac{(y-x)(1+x)-x(-y-x)}{10} = \dfrac{y}{6} - 4 \\ \dfrac{(y-x)(y+x)-(x-4)}{2} - \dfrac{x}{4} = 6 + \dfrac{y^2-x^2}{2} \end{cases}$$

$$\begin{cases} \dfrac{y+xy-x-x^2-xy+x^2}{10} = \dfrac{y-24}{6} \\ \dfrac{y^2-x^2-x+4}{2} - \dfrac{x}{4} = \dfrac{12+y^2-x^2}{2} \end{cases}$$

$$\begin{cases} 3y-3x = 5y-120 \\ 2y^2-2x^2-2x+2y-x = 24+2y^2-2x^2 \end{cases}$$

$$\begin{cases} 3x+2y = 120 \\ -3x+2y = 24 \end{cases}$$

$$4y = 144 \Rightarrow y = 36$$

$$(16, 36)$$

$$-3x+72 = 24 \quad -3x = -48$$

$$x = \frac{48}{3} = 16$$

$$\begin{cases} 2x = 2y + 10 \\ x + 11 = 2y \end{cases}$$

$a = bq + r$

$q = 2$

$r = 10$

$a = bq + r$

$$\begin{cases} x - y = 5 \\ x - 2y = -11 \end{cases} \qquad \begin{cases} x = 5 + y \\ x = 2y - 11 \end{cases}$$

$$\begin{cases} x = 5 + y \\ 5 + y = 2y - 11 \end{cases} \qquad \begin{cases} x = 5 + y \\ y = 16 \end{cases} \qquad \begin{cases} x = 21 \\ y = 16 \end{cases}$$

$$\begin{cases} a(x-1)+2x+y=7 \\ a(-2x-1)=3y+3 \end{cases}$$

$$\begin{cases} ax-a+2x+y=7 \\ +2ax+a+3y=-3 \end{cases} \qquad \begin{cases} (a+2)x+y=7+a \\ 2ax+3y=-a-3 \end{cases}$$

$$D=\begin{vmatrix} a+2 & 1 \\ 2a & 3 \end{vmatrix}=3a+6-2a=a+6$$

Se $D\neq 0$, cioè se $a+6\neq 0$, ovvero se $a\neq -6$ il sistema è determinato.

$$D_x=\begin{vmatrix} 7+a & 1 \\ -a-3 & 3 \end{vmatrix}=21+3a+a+3=4a+24$$

$$D_y=\begin{vmatrix} a+2 & 7+a \\ 2a & -a-3 \end{vmatrix}=-a^2-3a-2a-6-14a-2a^2=$$
$$=-3a^2-19a-6$$

$$x = \frac{D_x}{D} = \frac{4(a+6)}{a+6} = 4$$

$$y = \frac{D_y}{D} = \frac{-(3a^2+19a+6)}{a+6} =$$

$$= \frac{-(a+6)(3a+1)}{a+6} =$$

$$= -3a-1$$

	3	19	6
-6		-18	-6
	3	1	//

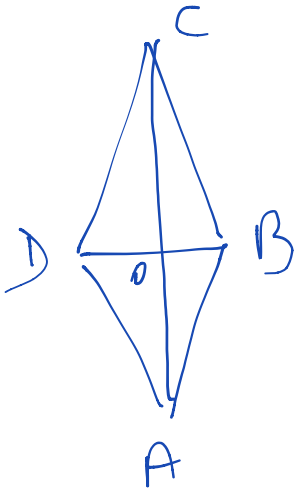
$$S = \{(4; -3a-1)\}$$

Se $a = -6$ si ha:

$$D = a+6 = 0$$

$$D_x = 4(a+6) = 0$$

$$D_y = -(a+6)(3a+1) = 0 \qquad S = \mathbb{R}$$



$$\begin{cases} \overline{CA} - \overline{DB} = 6a \\ \frac{1}{2}\overline{DB} + \frac{1}{3}\overline{CA} = 7a \end{cases}$$

$$\begin{cases} \overline{CA} - \overline{DB} = 6a \\ 3\overline{DB} + 2\overline{CA} = 42a \end{cases}$$

$$\begin{cases} \overline{CA} - \overline{DB} = 6a \\ 2\overline{CA} + 3\overline{DB} = 42a \end{cases} \qquad \begin{cases} -2\overline{CA} + 2\overline{DB} = -12a \\ 2\overline{CA} + 3\overline{DB} = 42a \end{cases}$$

$$// \quad 5\overline{DB} = 30a$$

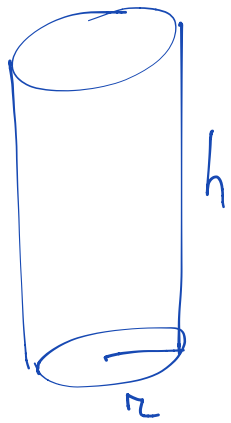
$$\overline{DB} = 6a$$

$$\overline{CA} = 6a + 6a = 12a$$

$$\overline{OB}^2 = \overline{CO}^2 + \overline{OB}^2 = \left(\frac{12a}{2}\right)^2 + \left(\frac{6a}{2}\right)^2 =$$

$$= 36a^2 + 9a^2 = 45a^2$$

$$\overline{OB} = \sqrt{45a^2} \qquad P = 4\sqrt{45a^2}$$



$$\begin{cases} \frac{2}{5}h + \frac{1}{3}r = 5 \\ h - 2r = 4 \end{cases}$$

$$\begin{cases} 6h + 5r = 75 \\ h - 2r = 4 \end{cases}$$

$$\begin{cases} h = 2r + 4 \\ 6(2r+4) + 5r = 75 \end{cases} \qquad \begin{cases} h = 2r + 4 \\ 12r + 24 + 5r = 75 \end{cases}$$

$$\begin{cases} h = 2r + 4 \\ 17r = 51 \end{cases} \qquad \begin{cases} h = 2r + 4 \\ r = 3 \end{cases} \qquad \begin{cases} r = 3 \text{ cm} \\ h = 10 \text{ cm} \end{cases}$$

$$V = \pi r^2 h = 90\pi \text{ cm}^3$$