

FICHA PARÁBOLA

1) a) $3x+4y=0$
 $F(2,3)$

$d(P,F) = d(P,r)$
 $\sqrt{(x-2)^2 + (y-3)^2} = \frac{|3x+4y|}{5}$
 $25(x-2)^2 + 25(y-3)^2 = (3x+4y)^2$

b) $F(1,3)$ $V(4,3)$ HORIZONTAL

$P/2 = 4-1=3$ $p=6$
 $(y-3)^2 = 12(x-4)$
 $(y-3)^2 = -12(x-4)$

c) $P(4,1)$ HORIZONTAL

$V(1,-2)$
 $(y-b)^2 = 2p(x-a)$
 $(1+2)^2 = 2p(4-1)$
 $9 = 6p$
 $p = 3/2$
 $(y+2)^2 = 3(x-4)$

2) $V(4,2)$ $F(4,0)$
 $P/2 = -2$ $p = -4$
 $(x-4)^2 = -8(y-2)$

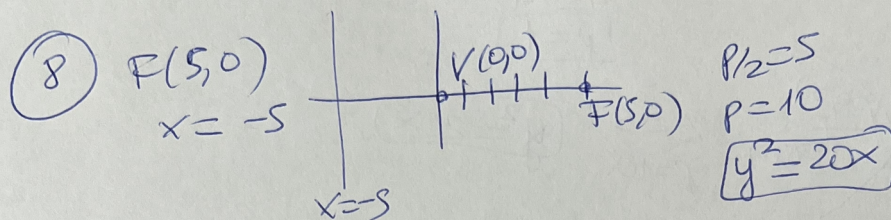
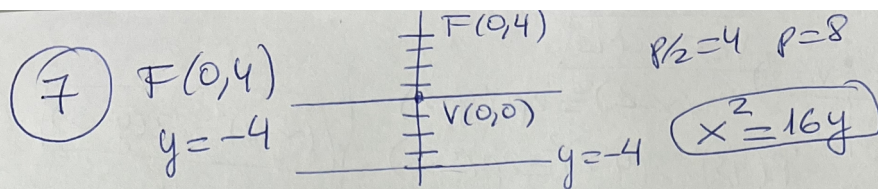
3) $y=kx+2$
 $y^2=8x$
 $(kx+2)^2=8x$
 $k^2x^2+4kx+4=8x$
 $k^2x^2+(4k-8)x+4=0$
 $x = \frac{-(4k-8) \pm \sqrt{(4k-8)^2 - 16k^2}}{2k^2}$
 $= \frac{-4k+8 \pm \sqrt{64-64k}}{2k^2}$
 $64-64k=0$ $k=1$

NO 4

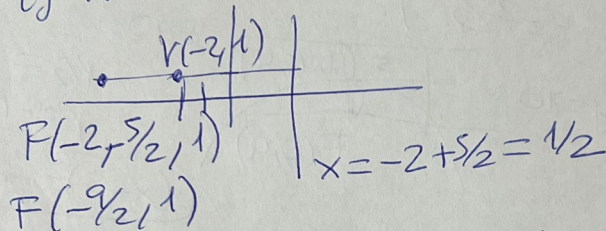
5) VERTICAL
 $V(0,0)$
 $P(2,4)$

$(x-0)^2 = 2p(y-0)$
 $2^2 = 2p \cdot 4$
 $p = 1/2$
 $x^2 = y$

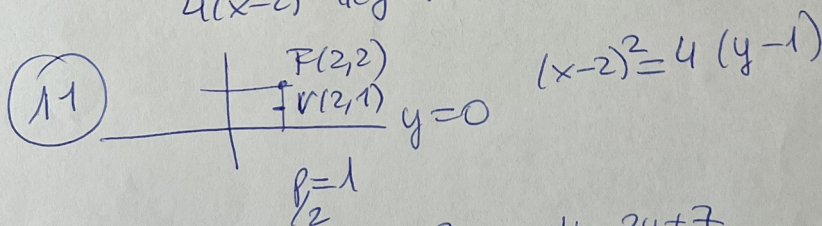
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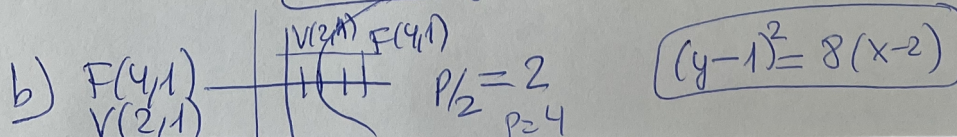
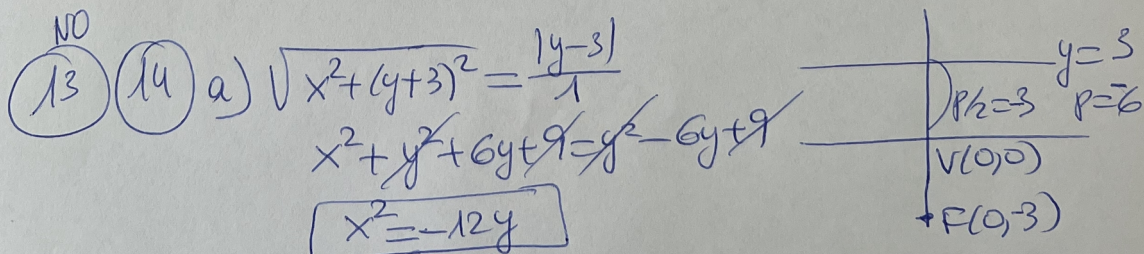
9) a) $x^2=10y$ $(p=5)$ $V(0,0)$ $F(0,5)$ $y=-5$
 b) $(y-1)^2=10(x+2)$ $(p=5)$ $V(-2,1)$

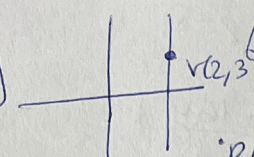


10) $\sqrt{(x-2)^2 + (y-3)^2} = \frac{|2x+5|}{2}$
 $4(x-2)^2 + 4(y-3)^2 = (2x+5)^2$

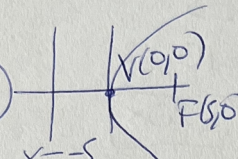


12) $x = (y+2)^2$ $y^2+4y+4=2y+7$
 $x=2y+7$ $y^2+2y-3=0$
 $y = \frac{-2 \pm \sqrt{4+12}}{2}$ $\frac{-2+4}{2}=1$ $(9,1)$
 $\frac{-2-4}{2}=-3$ $(1,-3)$



c)  VERTICAL

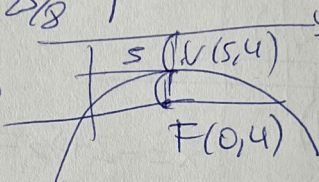
$$\begin{aligned} (x-2)^2 &= 2p(y-3) \\ (4-2)^2 &= 2p(5-3) \\ 4 &= 4p \\ p &= 1 \end{aligned} \quad \left\{ \begin{array}{l} (x-2)^2 = 2(y-3) \end{array} \right.$$

15 a)  $x = -5$

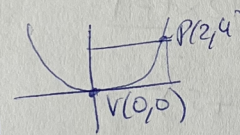
$$\begin{aligned} p/2 &= 5 \\ p &= 10 \end{aligned} \quad \left\{ \begin{array}{l} y^2 = 20x \end{array} \right.$$

b) $V(0,0)$
 $P(5,4)$

$$\begin{aligned} x^2 &= 2py \\ 5^2 &= 2p \cdot 4 \\ p &= 25/8 \end{aligned} \quad \left\{ \begin{array}{l} x^2 = \frac{25}{4}y \end{array} \right.$$

c) $V(5,4)$ $y = 10$ 

$$\begin{aligned} p/2 &= -5 \\ p &= -10 \end{aligned} \quad \left\{ \begin{array}{l} (x-5)^2 = -20(y-4) \end{array} \right.$$

16 $V(0,0)$
 $P(2,4)$ 

$$\begin{aligned} x^2 &= 2py \\ 2^2 &= 2p \cdot 4 \\ p &= 1/2 \end{aligned} \quad \left\{ \begin{array}{l} x^2 = y \end{array} \right.$$