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Variant: 1

P.1.

(b) $-x + y - x^2 + 2xy - y^2 = 0$

General: $Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0 \Rightarrow -x^2 + 2xy - y^2 + x + y = 0$

eliminate xy -term:

$$x = x' \cos \theta - y' \sin \theta$$

$$\cot 2\theta = \frac{A-C}{B}$$

$$y = x' \sin \theta + y' \cos \theta$$

$$A = -1 \quad B = 2 \quad C = -1 \quad \cot 2\theta = \frac{0}{2} = 0 \quad \arccot 0 = \frac{\pi}{2}$$

$$x = x' \cos \frac{\pi}{2} - y' \sin \frac{\pi}{2}$$

$$y = x' \sin \frac{\pi}{2} + y' \cos \frac{\pi}{2}$$

$$= x'(0) - y'(1) = -y'$$

$$= x'(1) + y'(0) = x'$$

$$= (-y')^2 + 2(-y')(x') - (x')^2 + (-y') + (x') = 0$$

Focus $(\frac{1}{8}, \frac{1}{8})$

directrix $y = -x - \frac{1}{4}$

length

latus rectum $= \frac{\sqrt{2}}{2}$