Universidad de Puerto Rico
Departamento de Matemáticas
MATE 3018 – Repaso 3–

Apellidos: ———————————— ———————————— Nombre ————————————

No. Estudiante: ——————————— Profesor: ——————————— Sección ———————————

(1) Find an equation for each parabola having the given properties.

(a) Vertex at $(0,0)$ and Focus at $(-4,0)$.

(b) Focus at $(0,-1)$ and the directrix is the line $y = 1$:

(c) Focus at $(2,4)$ and the directrix is the line $x = -4$:

(2) (a) Write $x^2 + 6x - 4y + 1 = 0$ in the form $y - k = \dfrac{1}{4c}(x-h)^2$.

(b) Find the coordinates of the vertex:

(c) Find the coordinates of the focus:

(d) Find the axis of symmetry:

(e) Find the equation of the directrix:

(f) Find the y-intercepts if any:

(g) Find the x-intercepts if any:

(h) Sketch the graph of the parabola:

(3) (a) Write $y^2 - 4y + 4x + 4 = 0$ in the form $x - h = \dfrac{1}{4c}(y - k)^2$.

(b) Find the coordinates of the vertex:

(c) Find the coordinates of the focus:

(d) Find the axis of symmetry:

(e) Find the equation of the directrix:

(f) Find the y-intercepts if any:

(g) Find the x-intercepts if any:

(h) Sketch the graph of the parabola: