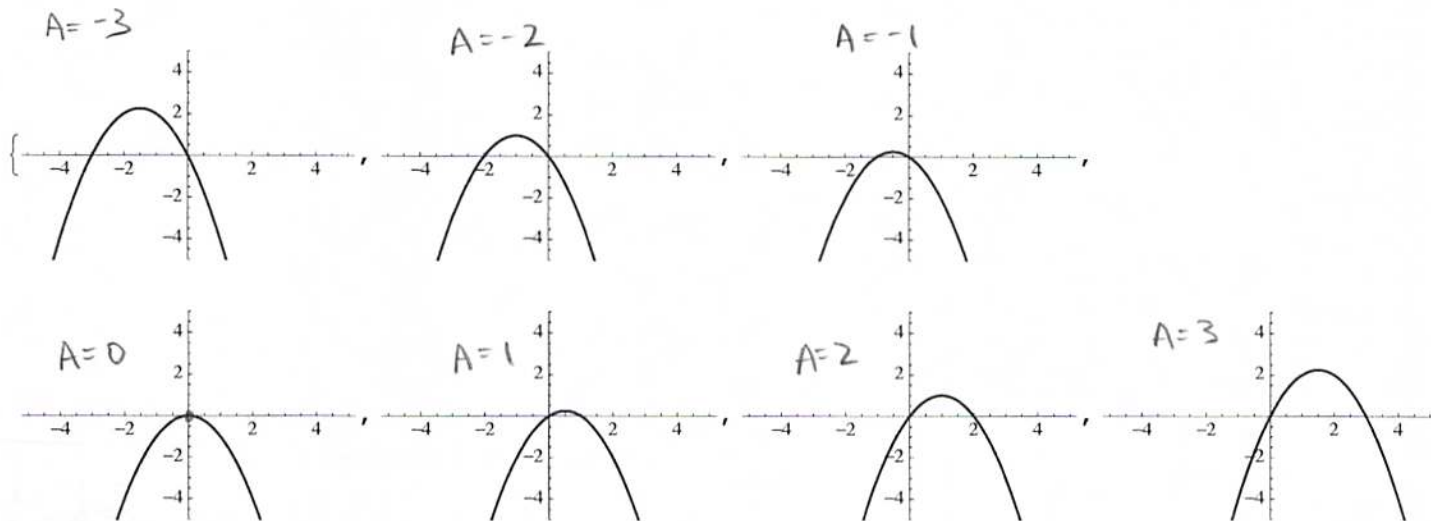


Sec 1.7 #13

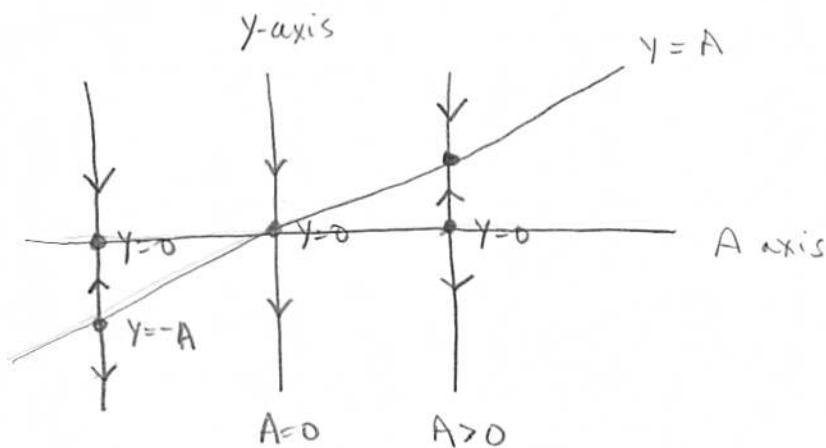
Equilibrium values $y=0$ and $y=A$

i. $\frac{dy}{dt} = Ay - y^2 = y(A - y)$

$A = -3, -2, -1, 0, 1, 2, 3$



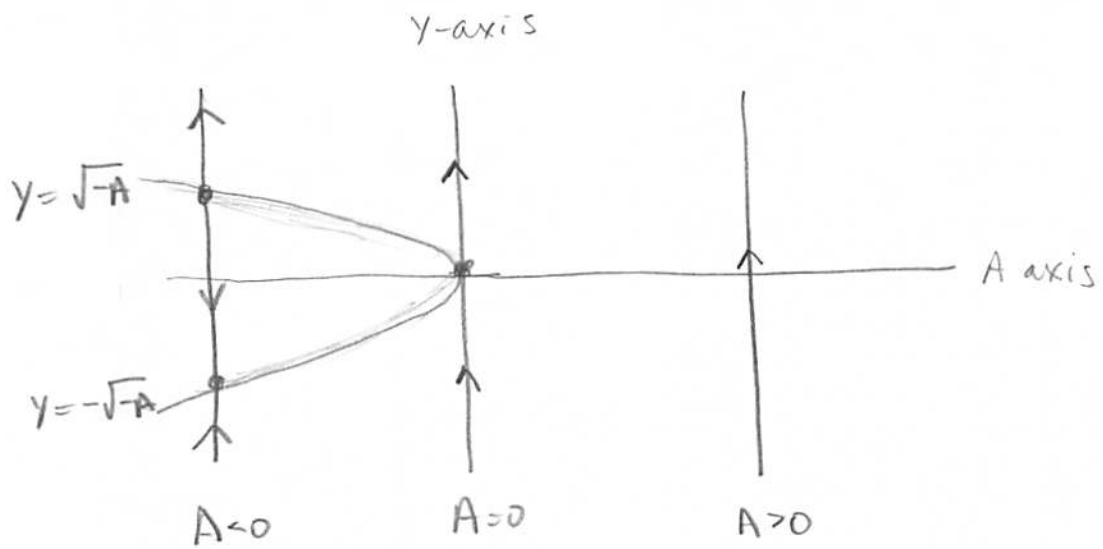
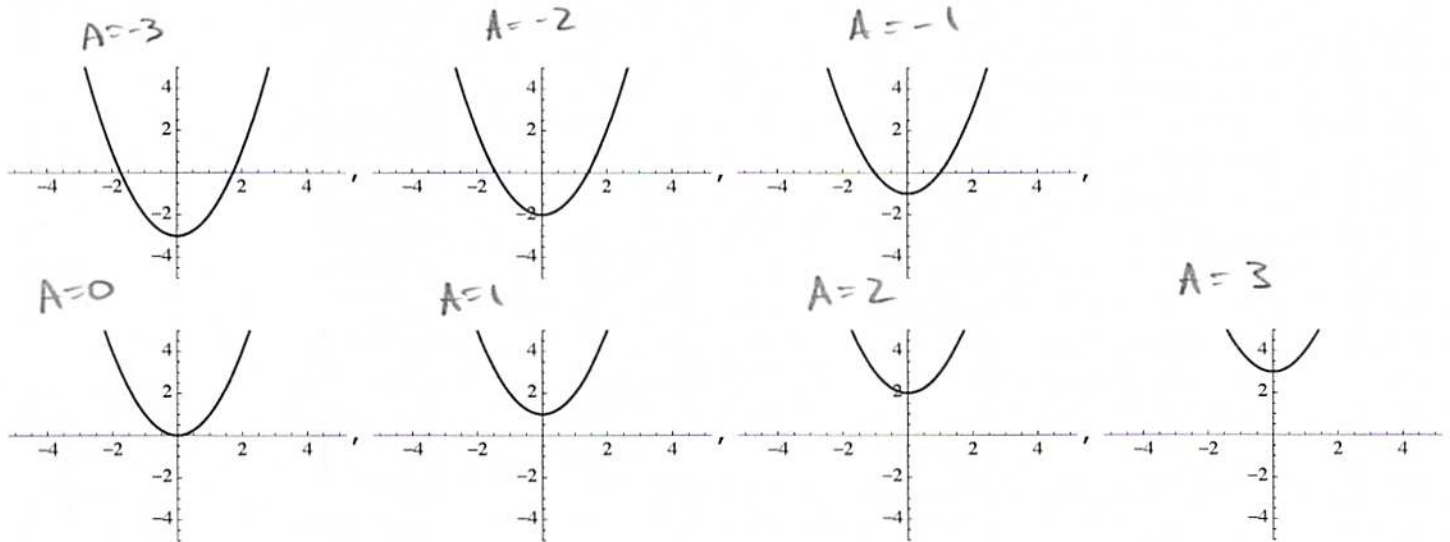
Graph D



Equilibrium values $y = \pm\sqrt{-A}$

ii. $\frac{dy}{dt} = A + y^2$

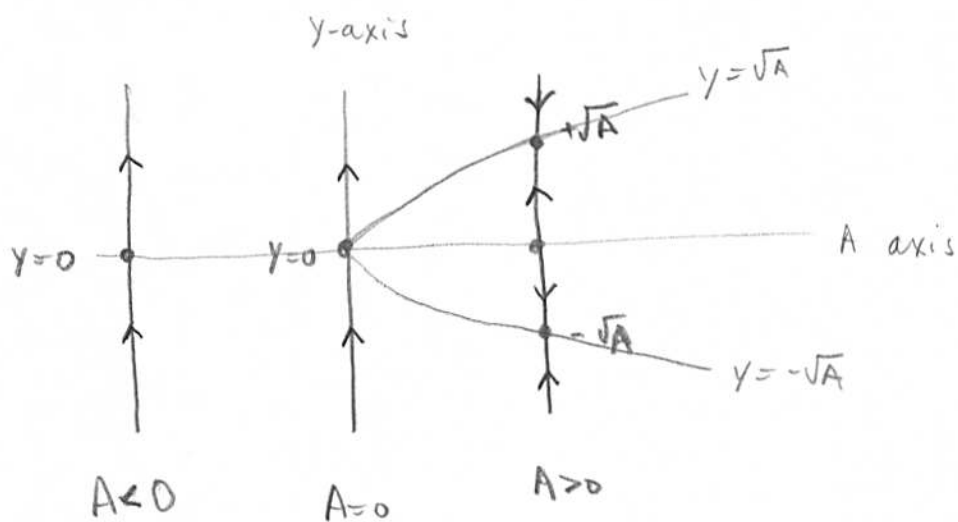
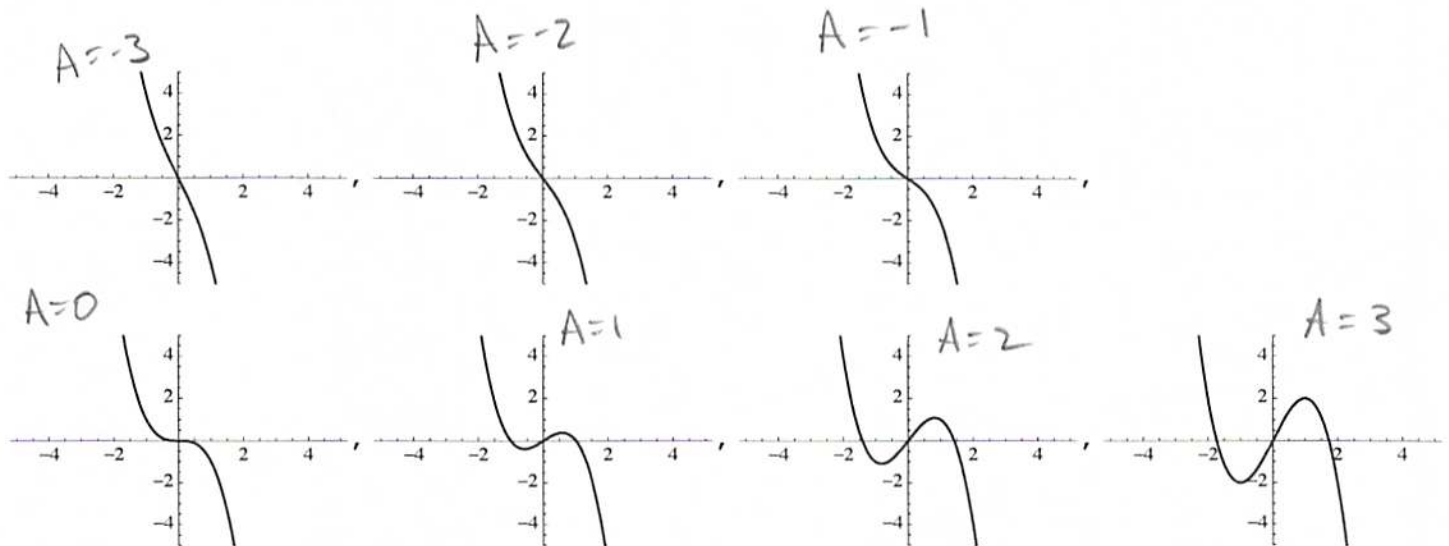
$A = -3, -2, -1, 0, 1, 2, 3$



Equilibrium values $y=0$ $y=\pm\sqrt{A}$

iii. $\frac{dy}{dt} = Ay - y^3 = y(A - y^2)$

$A = -3, -2, -1, 0, 1, 2, 3$



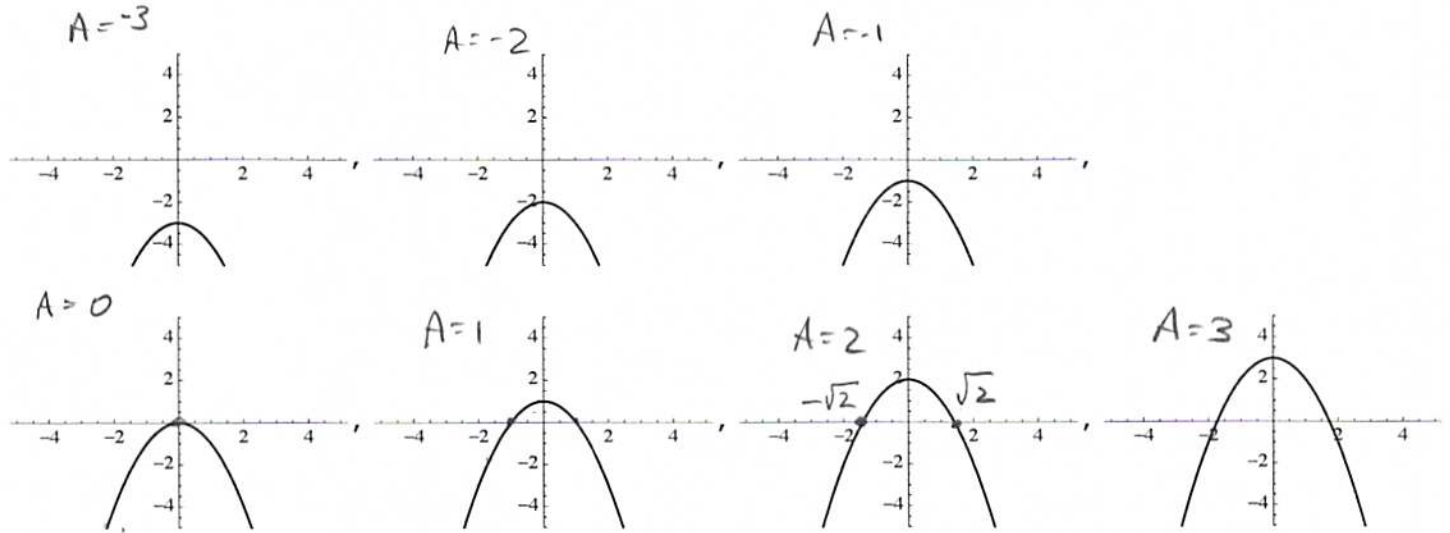
#13

Equilibrium values

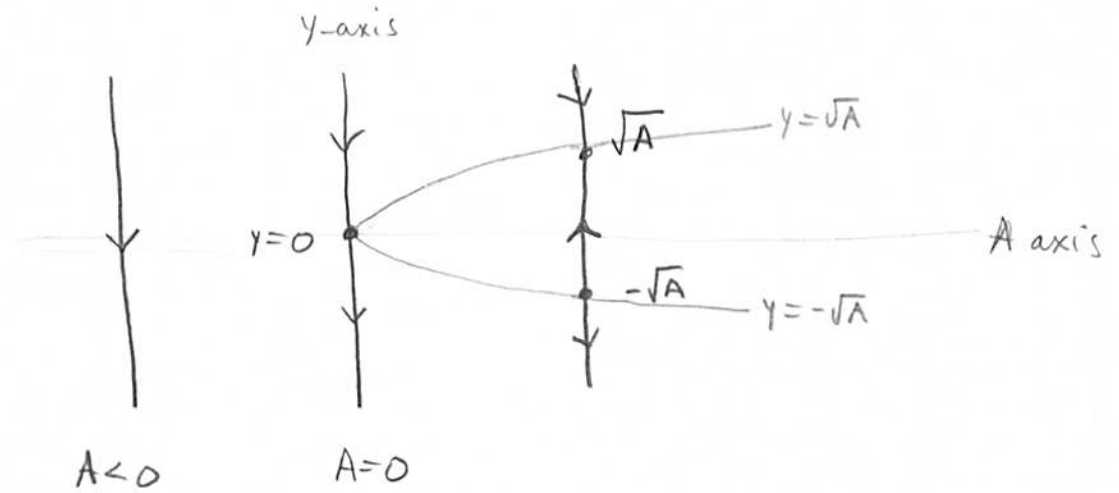
iv. $\frac{dy}{dt} = A - y^2$

$y = \pm \sqrt{A}$

$A = -3, -2, -1, 0, 1, 2, 3$



Graph C



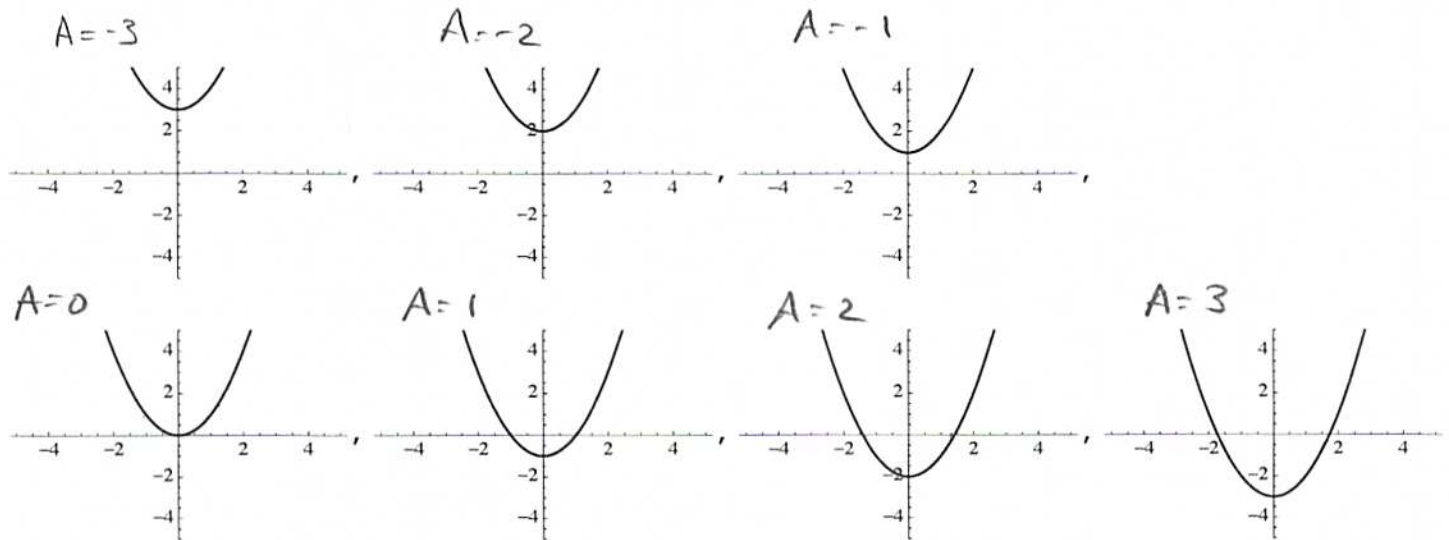
Equil. brown values $f_A(y) = 0$

v. $\frac{dy}{dt} = y^2 - A$

$$y^2 - A = 0$$

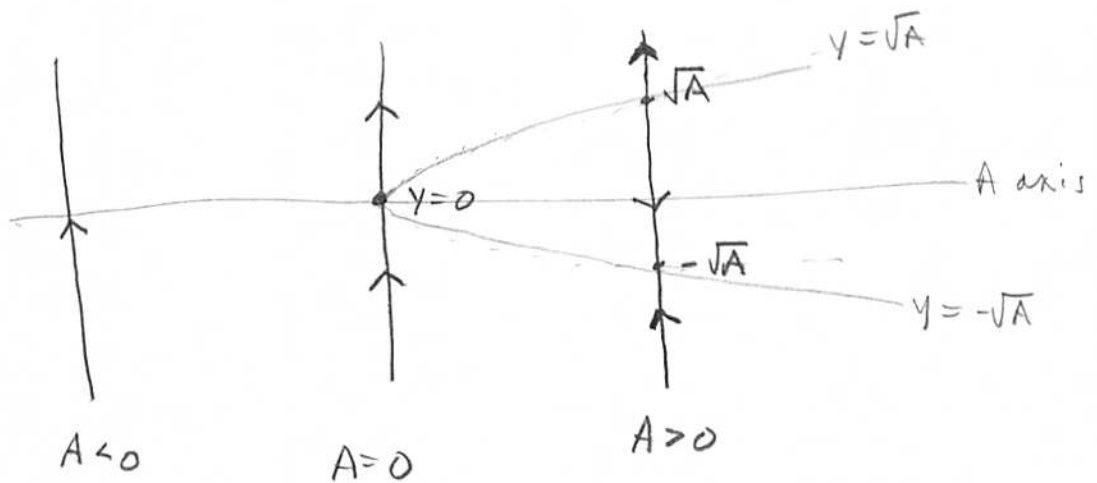
$$y = \pm \sqrt{A}$$

$A = -3, -2, -1, 0, 1, 2, 3$



y-axis

Graph B



Equilibrium Values

$$f_A(y) = 0$$

$$y = 0 \text{ or } y = -A$$

vi. $\frac{dy}{dt} = Ay + y^2 = y(A + y)$

$$A = -3, -2, -1, 0, 1, 2, 3$$

