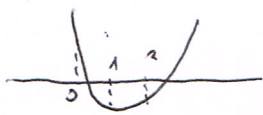


0.1
5

$$x - \sqrt{x} (3+m) + 2(1-m^2) = 0$$

$$t^2 - t(3+m) + 2(1-m^2) = 0$$



$$x_1 < 1$$

$$\sqrt{x_1} < \sqrt{1}$$

$$\boxed{0 < t < 1}$$

↓
0 < 2

$$\sqrt{x} = t \quad (NO)$$

$$x_1 \geq 4 \quad \sqrt{x_1}$$

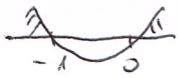
$$\sqrt{x_1} > \sqrt{4}$$

$$t > 2$$

$$0 > f(2) = 4 - 6 - 2m + 2 - 2m^2$$

$$2m^2 + 2m > 0$$

$$2m(m+1) > 0$$



$$m > 0$$

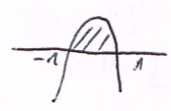
$$m < -1$$

$$0 > f(1) = 1 - 3 - m + 2 - 2m^2$$

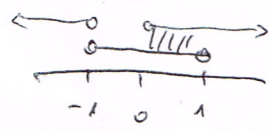
$$2m^2 + m > 0$$

0 < 1 < 0

$$0 < f(0) = 2(1-m^2)$$



$$\boxed{-1 < m < 1}$$



$$\boxed{0 < m < 1}$$

(2)

$$E_{\text{pot}} = \frac{1}{2} k x^2$$