

$$> \text{phi} := \frac{(f_1 + g_1)}{2 \cdot h} :$$

$$n1 := \frac{f_1}{f_1 + g_1} \cdot \left(1 - \exp\left(-\frac{\text{phi}}{v_0} \cdot h^2\right) \right) \cdot \exp\left(\frac{g_2}{h} \cdot x\right) :$$

$$n2 := \frac{f_1}{f_1 + g_1} \cdot \left(1 - \exp\left(\frac{\text{phi}}{v_0} \cdot (x^2 - h^2)\right) \right) :$$

$$n3 := 0 :$$

$$> \text{para} := \left\{ h = 1, f_1 = \frac{4}{5}, g_1 = \frac{1}{10}, g_2 = 2 \right\} :$$

$$> \text{vvalue} := \{v_0 = 1\} :$$

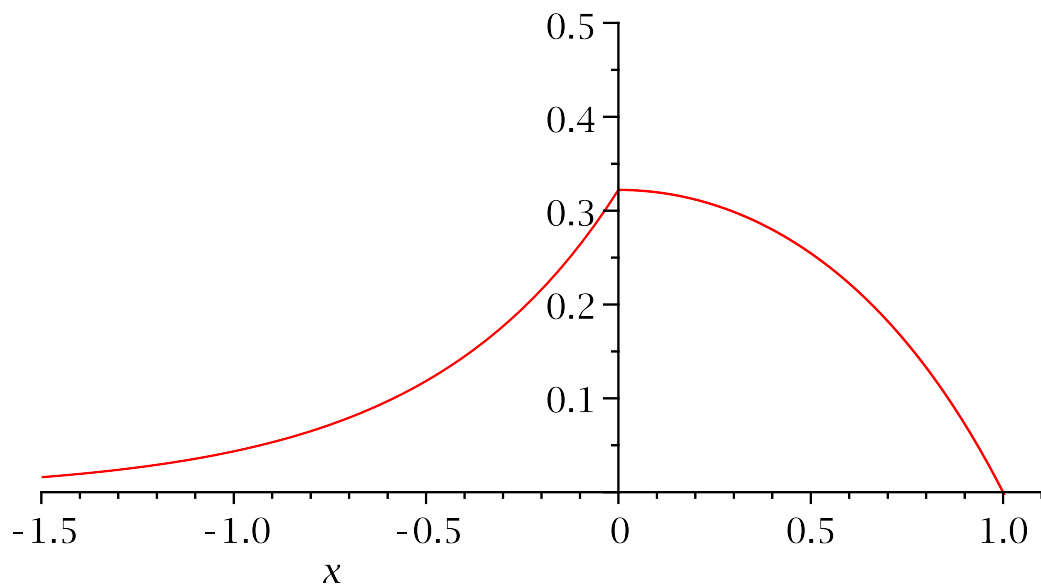
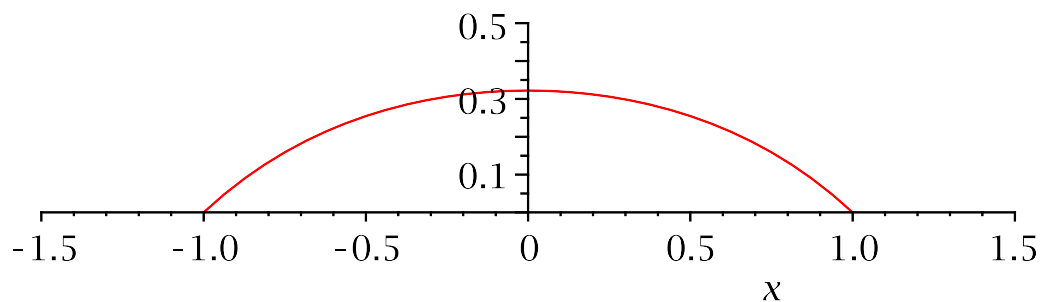
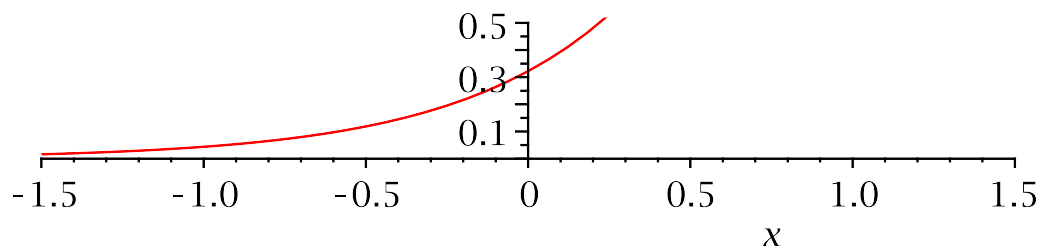
*plot(subs(para **union** vvalue, n1), x = -1.5..1.5, 0..0.5);*

*plot(subs(para **union** vvalue, n2), x = -1.5..1.5, 0..0.5);*

*p1 := plot(subs(para **union** vvalue, n1), x = -1.5..0, 0..0.5) :*

*p2 := plot(subs(para **union** vvalue, n2), x = -0..1.1, 0..0.5) :*

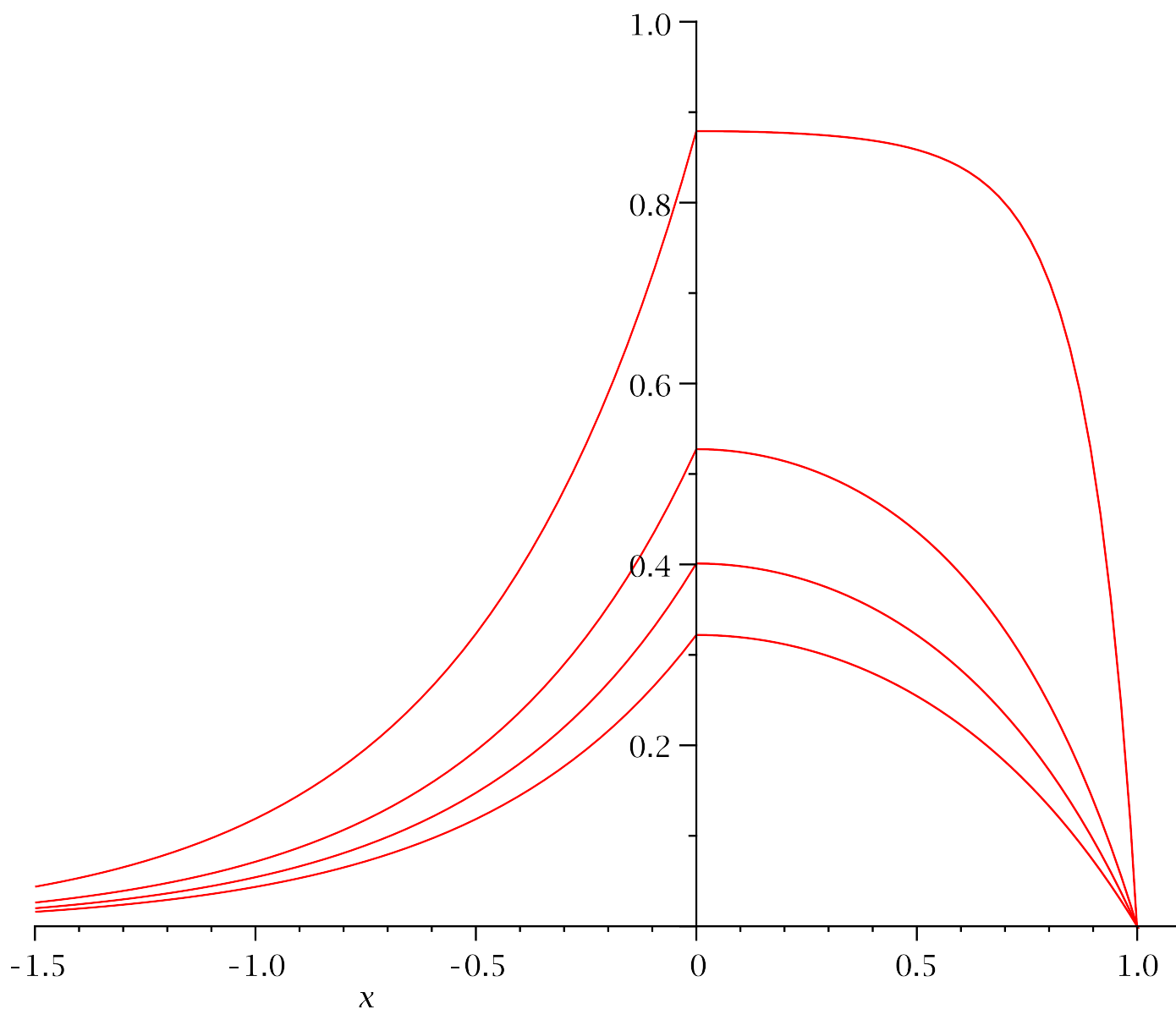
plots[display](p1, p2);



```

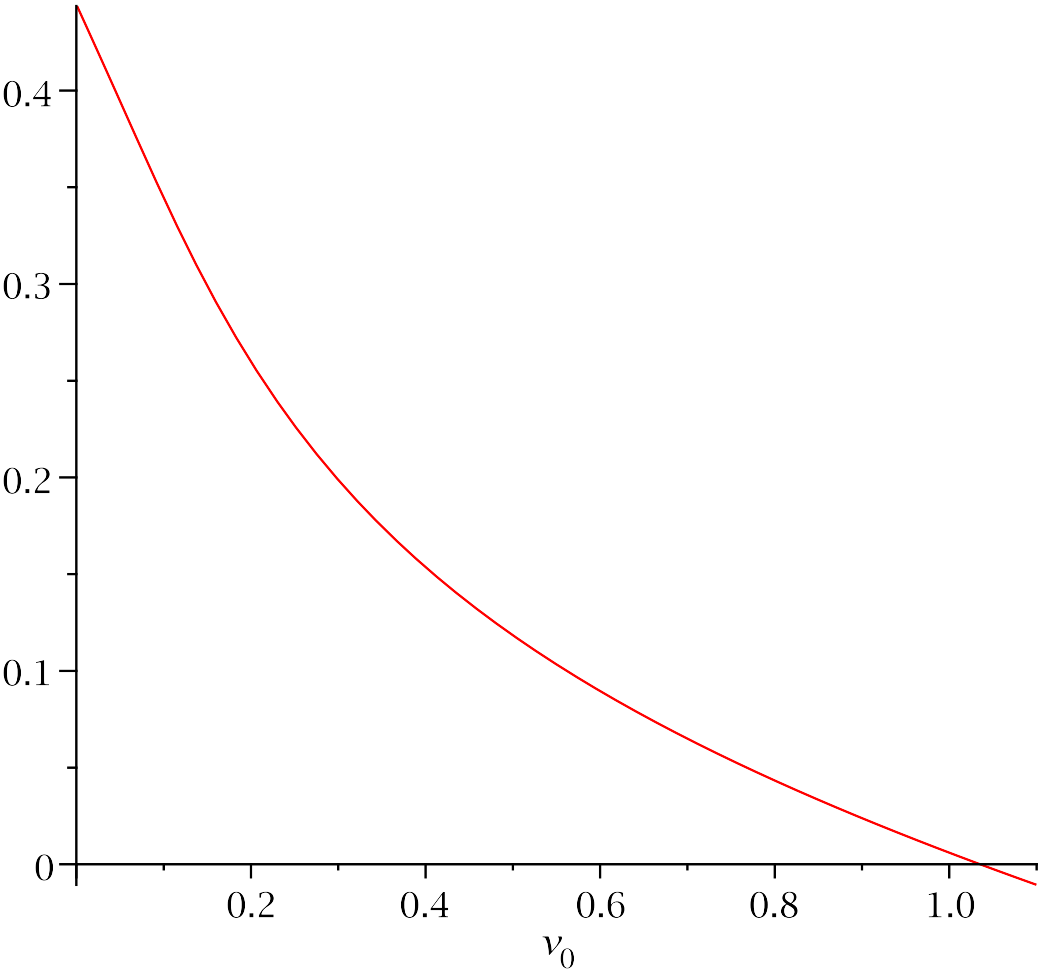
> vvalue := {v0 = 0.1}:
p1 := plot(subs(para union vvalue, n1), x = -1.5..0, 0..1):
p2 := plot(subs(para union vvalue, n2), x = -0..1.1, 0..1):
PP1 := plots[display](p1, p2):
> vvalue := {v0 = 0.5}:
p1 := plot(subs(para union vvalue, n1), x = -1.5..0, 0..1):
p2 := plot(subs(para union vvalue, n2), x = -0..1.1, 0..1):
PP2 := plots[display](p1, p2):
> vvalue := {v0 = 0.75}:
p1 := plot(subs(para union vvalue, n1), x = -1.5..0, 0..1):
p2 := plot(subs(para union vvalue, n2), x = -0..1.1, 0..1):
PP3 := plots[display](p1, p2):
vvalue := {v0 = 1}:
p1 := plot(subs(para union vvalue, n1), x = -1.5..0, 0..1):
p2 := plot(subs(para union vvalue, n2), x = -0..1.1, 0..1):
PP4 := plots[display](p1, p2):
plots[display](PP1, PP2, PP3, PP4);

```



> $F := \frac{\rho_0 \cdot k \cdot f_1}{f_1 + g_1} \cdot \left(\frac{h^2}{2} - \left(1 - \exp\left(-\frac{\text{phi}}{v_0} \cdot h^2 \right) \right) \cdot \left(\frac{1}{2} \cdot \frac{v_0}{\text{phi}} + \left(\frac{v_0}{g_2} \right)^2 \right) \right) :$

> *plot(subs(paraunion {ρ₀ = 1, k = 1}, F), v₀ = 0..1.1);*



>