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[ > restart; #QUICK away from boundary
[ > #phi:=a*x^2+b*x+c;
[ > eq_W:=a*(-dx)^2+b*(-dx)+c=phi[W];
[

$$eq_W := a dx^2 - b dx + c = \phi_W$$

[ > eq_P:=a*(0)^2+b*(0)+c=phi[P];
[

$$eq_P := c = \phi_P$$

[ > eq_E:=a*(+dx)^2+b*(+dx)+c=phi[E];
[

$$eq_E := a dx^2 + b dx + c = \phi_E$$

[ > solve({eq_W,eq_P,eq_E},{a,b,c});
[

$$\{a = \frac{1}{2} \frac{-2\phi_P + \phi_E + \phi_W}{dx^2}, b = -\frac{1}{2} \frac{-\phi_E + \phi_W}{dx}, c = \phi_P\}$$

[ > b := -1/2*(-phi[E]+phi[W])/dx: a :=
1/2*(-2*phi[P]+phi[E]+phi[W])/(dx^2): c := phi[P]:
[ > phi[e]:=a*(dx/2)^2+b*(dx/2)+c;
[

$$\phi_e := \frac{3}{4} \phi_P + \frac{3}{8} \phi_E - \frac{1}{8} \phi_W$$


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