

# Imbedded Linear Equations Activity

Solve. Make sure to find ALL solutions, and to simplify when possible.

1)  $(x + 5)^2 - 9 = 0$

2)  $(x - 12)^2 = 18$

3)  $(x - 3)^2 = 7$

4)  $5(x - 3)^2 = 50$

5)  $3 + 8(4x - 2)^2 = 11$

6)  $3 + 4(x + 2)^2 = 0$

7)  $9(x - 2)^2 + 10 = 10$

8)  $\frac{2}{5}\left(x - \frac{3}{2}\right)^2 - \frac{1}{2} = 0$

9) Solve  $(x - h)^2 + k = 0$  for  $x$ .

a) We now have a formula for solving equations that are in this form. In order for the previous equation to have real solutions, what must be true of  $k$ ?

b) Use this formula to solve the following mentally:

i)  $(x - 1)^2 - 4 = 0$

ii)  $(x - 1)^2 + 4 = 0$

iii)  $(x + 2)^2 - 3 = 0$

iv)  $(x + 13)^2 - 20 = 0$