

Starter  $x=0$   $x+h = -b$  17 FEB 2017  
 Graph the following.  
 $y = x^2 + 6x + 4$   
 $y = x(x+6) + 4$   
 $y = 0(0+6) + 4$   
 $y = -6(-6+6) + 4$   
 $-6 \quad 4$   
 $-3$  for  $x$   
 $-3(3+6) + 4$   
 $-3(3) + 4$   
 $-9 + 4 = -5$

$y = x^2 + 4x - 5$   $x+4=0$   
 $x = -4$   
 $y = x(x+4) - 5$   
 $0(0+4) - 5$   
 $-4(-4+4) - 5$   
 $0 - 5$   
 $-2(-2+4) - 5$   
 $-2(2) - 5$   
 $-4 - 5$   
 $-9$

fix this problem on your paper.  
 $y = x^2 - 6x + 3$  axis of symmetry  $x=3$  vertex  $(3, -6)$   
 (4)  $y = x^2 - 2x + 1$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_  
 $y = x^2 + 7x - 6$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_  
 $y = x^2 - 6x + 3$   $x - \frac{b}{2} = \frac{0}{2} = 0$   $x = 6$   
 $y = x(x-6) + 3$   

x	y
0	3
6	3
3	-6

 $0(0-6) + 3$   
 $0 + 3$   
 $6(6-6) + 3$   
 $0 + 3$   
 $3(3-6) + 3$   
 $3(-3) + 3$   
 $-9 + 3 = -6$

fix this problem on your paper.  
 $y = x^2 - 6x + 3$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_  
 (4)  $y = x^2 - 2x + 1$  axis of symmetry  $x=1$  vertex  $(1, 0)$   
 $y = x^2 + 7x - 6$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_  
 $y = x(x-2) + 1$   

x	y
0	1
2	1
1	0

 $0(0-2) + 1$   
 $0 + 1$   
 $2(2-2) + 1$   
 $0 + 1$   
 $1(1-2) + 1$   
 $0 + 1$

fix this problem on your paper.

$y = x^2 - 6x + 3$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_

④  $y = x^2 - 2x + 1$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_

$y = x^2 + 7x - 6$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_

$y = x(x+7) - 6$

x	y
0	-6
-7	-6
-3.5	-18.25

$0(0+7) - 6 = 0 - 6 = -6$   
 $7(-7+7) - 6 = 0 - 6 = -6$   
 $-3.5(-3.5+7) - 6$

Use the quadratic formula

$a = 1$   
 $b = 8$   
 $c = -10$

$x^2 + 8x - 10 = 0$

$x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(1)(-10)}}{2(1)}$

$\frac{-8 + \sqrt{64 + 40}}{2} \quad \& \quad \frac{-8 - \sqrt{104}}{2}$

$x = 1.1 \quad \& \quad -9.1$