

Scrap paper is available but write your final solution clearly in the space provided

[1] 7 _____

[2] D _____

The vertex, which has the form (h, k) , is $(1, 3)$. The equation, which has the form $y = a(x - h)^2 + k$, is

[3] $y = (x - 1)^2 + 3$.

a) The first and the last terms are perfect squares. Double the product of their square roots, a and $6b$, to get $12ab$ as the middle term. Check $(a + 6b)^2$.

b) Change the last term to 16 to make it a perfect square. Then, check $(t - 4)^2$.

c) The first and last terms are perfect squares. Double the product of their square roots, $3x$ and y , to get $6xy$ as the middle term. Check $(3x + y)^2$.

[4] d) the middle term should be double cd , or $2cd$. Check $(c + d)^2$.

[5] a) 1.4 b) 1.7 c) 3.1 d) 1.9 _____

[6] C _____

[7] $A\left(\frac{3}{2}, -1\right), B\left(4, -\frac{1}{2}\right)$; The slopes of AB and YZ are both $\frac{1}{5}$.

[8] 22 and 22 _____