**Extra practice for Chapter 1 TEST**

 **1.** Determine the equation in standard form (expanded) of the parabola obtained by stretching horizontally by a factor 3, and translating it 1 unit to the right and 5 units up.

 **2.** If (3,-8) is on the graph of $y=f(x)$, which corresponding point is on the graph of
$y=2f\left(-\frac{1}{3}(x-4)\right)+5$? Us the table below to list the transformations and the corresponding coordinates.

|  |  |
| --- | --- |
| Transformation | Starting point (3,-8) |
|  |  |
|  |  |
|  |  |
|  |  |
|  | Corresponding point |

 **3.** Determine the inverse of $f\left(x\right)=4x^{2}-16x+17$.

 **4.** a)What is the equation of the function that you get after reflecting $y=f(x)$ around the *y*-axis and stretching it vertically by a factor 3.

b) Same question with $f(x)=\frac{1}{3x+1}$

 **5.** a)What is the equation of the function that you get after reflecting $y=f(x)$ around the *x*-axis and stretching it horizontally by a factor $\frac{1}{3}$.

b) Same question with $f\left(x\right)=x^{2}-5x+1$

b) Same question with $f\left(x\right)=-3\sqrt{2x-1}$

 **6.** Let $f\left(x\right)= 2x^{2}-8x+4$

**a)** Determine its domain and range.

**b)** How do you know that the inverse won’t be a function?

c) restrict the domain so that the inverse is a function.

d) What are the domain and the range of the inverse?