

Solutions

2.1 The squared term is zero at $x=3$.

2.2 At $x=3$, the output is 2.

2.3 $(4-3)^2+2=3$.

3.1 False. For $f(x)=x^2$, $y=(x+3)^2$ has vertex $(-3,0)$, three units left of $(0,0)$.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.