Situation 30: Translation of Functions
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Prompt

During a unit on functions, the transformation of functions from their parent function is discussed in a class. For example, if the parent function is $y = x^2$, then the child function $y = 3x^2 + 4$ would have a vertical dilation, or stretch, by a factor of 3 and a vertical translation of 4 units. When the class encounters the function $y = (x - 2)^2 + 3$, one student notes that the vertical translation of +3 "makes sense," but the horizontal translation to the right of 2 does not "make sense" with a -2 within the function. As a teacher, how would you explain this?

Commentary

Mathematical Foci

Mathematical Focus 1

Mathematical Focus 2

Mathematical Focus 3

Mathematical Focus 4