**First Derivative Test Take-Home Assignment**

1. **Always true/Never true/Sometimes True:**
* For a continuous function $f$, if $f^{'}\left(a\right)=0$ or dne, then $f$ attains a relative min or max at $x=a$.
* For a continuous function $f$, if $f$ attains a relative min or max at $x=a$, then $f^{'}\left(a\right)=0$ or dne.
1. **Draw at least two graphs to illustrate your positions:**
2. **Explain to an adult what a derivative is and why we would solve** $f^{'}\left(x\right)=0$ **or** $f^{'}\left(x\right)=dne$**. Have her/him write an explanation (and sign):**
3. **Brainstorm with the adult examples of continuous functions we might want to know the relative mins/maxs of. Write at least three examples here:**

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