1. Sketch a curve which meets the following criteria:

|  |  |
| --- | --- |
| $x-$value / interval | $$f^{'}(x)$$ |
| $$(-\infty ,1]$$ | $f^{'}(x)$<0 |
| $$1$$ | $$f^{'}\left(x\right)=0$$ |
| $$[1, 3]$$ | $$f^{'}\left(x\right)>0$$ |
| $$3$$ | $$f^{'}\left(x\right)=0$$ |
| $$[3,5]$$ | $$f^{'}\left(x\right)<0$$ |
| $$5$$ | $$f^{'}\left(x\right)=0$$ |
| $$[5,7]$$ | $$f^{'}\left(x\right)>0$$ |
| $$7$$ | $$f^{'}\left(x\right)=0$$ |
| $$[7,\infty ]$$ | $$f^{'}\left(x\right)>0$$ |



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