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| **Fill in the Blanks** | **Composite Two-Step Functions** |

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| **Question** | **Input** | **1st Function** | **2nd Function** | **Output** | **Answer** |
| $$f\left(x\right)=3x-1$$$$g\left(x\right)=x^{2}+5$$Find $fg(x)$ |  |  |  |  |  |  | $$fg\left(x\right)$$$$=3\left(x^{2}+5\right)-1$$$$=3x^{2}+14$$ |
| $$f\left(x\right)=2\sqrt{x}$$$$g\left(x\right)=4x-3$$Find $gf(x)$ |  |  |  |  |  |  | $$gf\left(x\right)$$$$ =$$ |
| $$f\left(x\right)=\frac{x}{2}+1$$$$g\left(x\right)=3x^{2}$$Find $fg(x)$ |  |  |  |  |  |  | $$fg\left(x\right)$$$$ =$$ |
| $$g\left(x\right)=\frac{1}{x-2}$$$$h\left(x\right)=4\sqrt{x}$$Find $hg(x)$ |  |  |  |  |  |  |  |
| $$f\left(x\right)=5x^{2}$$$$g\left(x\right)=2x-1$$Find $fg(x)$ |  |  |  |  |  |  |  |