

6 Functions f and g are defined for $x \in \mathbb{R}$ by

$$f : x \mapsto \frac{1}{2}x - a,$$

$$g : x \mapsto 3x + b,$$

where a and b are constants.

(a) Given that $gg(2) = 10$ and $f^{-1}(2) = 14$, find the values of a and b .

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(b) Using these values of a and b , find an expression for $gf(x)$ in the form $cx + d$, where c and d are constants.

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