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1. The area of the region bounded by the $x$-axis, the lines $x=2, x=6$ and $y=\frac{1}{2} x+2$ is given by the integral $A=\int_{2}^{6}\left(\frac{1}{2} x+2\right) d x$. Evaluate this integral to obtain the area $A$.
2. The area of the region can be obtained without the use of calculus. Show that the result of part 1 above agrees with the area so obtained.
