

Let  $X = \sigma Z + \mu$ , where  $Z$  is a standard normal random variable, and  $\mu$  and  $\sigma$  are constants, with  $\sigma > 0$ .

**Compute**  $\mathbb{E}(X)$  and  $\text{Var}(X)$ .

*(Hint: if you're taking an integral, you're working way too hard!)*