

10. There is an integer n such that $2n^2 - 5n + 2$ is prime.

Proof:

Let $n = 3$

then n is an integer such that

$$\begin{aligned} 2n^2 - 5n + 2 &= 2(3)^2 - 5(3) + 2 \\ &= 5 \end{aligned}$$

which is prime.

Q. E. D.