Jacob McGraw

11/29/16

QG

1. Fermat, . . .

2. His most eminent pupil was Victor Poncelet. His book, "Traité des Propriétés projectives des figures" contained essential concepts of geometry.

3. Cabri's father was a mayor

4. Balzac

5. $\int_{-\infty}^{\infty} e^{-\frac{x^2}{2}}\,dx = \sqrt{2\pi}$

Proof: $\int_{-\infty}^{\infty} e^{-\frac{x^2}{2}}\,dx = \int_{-\infty}^{\infty} e^{-\frac{x^2}{2}} \int_{-\infty}^{\infty} e^{-\frac{y^2}{2}}\,dy = \iint_{-\infty}^{\infty} e^{-\left(\frac{x^2}{2}+\frac{y^2}{2}\right)}\,dx\,dy$

Polar Coordinates:

$= \int_0^{2\pi}\int_0^{\infty} re^{-\frac{r^2}{2}}\,dr\,d\theta = \left[2\pi e^{-\frac{r^2}{2}}\right]_0^{\infty} = \sqrt{2\pi}$