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MATEMATIKA

MATRIKS

$$\textcircled{1} r = 2i + 4j + 2k$$

$$r = ti + tj + tk$$

$$\frac{dr}{dt} = i + 2tj + 2t^2k$$

$$\text{At } t=1 \quad dr = i + j + 2k$$

$$\left| \frac{dr}{dt} \right| = \sqrt{1^2 + 2^2 + 2^2} = \sqrt{14}$$

$$T = \frac{dr/dt}{\left| \frac{dr}{dt} \right|} = \frac{i + 2j + 2k}{\sqrt{14}}$$

$$\textcircled{2} A = 4t^2i + 5tk, \quad B = 2t^2i + 4tj$$

$$G \cdot A \times B = (4t^2i + 5tk) \times (2t^2i + 4tj)$$

$$G = 4t^2 +$$

$$\Rightarrow \int_0^5 16t^4 dt$$

$$= \left[ \frac{16t^5}{5} + C \right]_0^5$$

$$\Rightarrow \frac{16}{5}$$