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12:00

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Pg 5
ACHA4000

Question Three

$$c) i) \int \frac{21x^2 + 10x - 3}{7x^3 + 5x^2 - 3x - 1} dx$$

$$= \int \frac{1}{u} du$$

$$= \ln|7x^3 + 5x^2 - 3x - 1| + C$$

$$ii) \int \frac{8}{3x + 10} dx$$

$$= 8 \cdot \int \frac{1}{3x + 10} dx$$

$$= 8 \cdot \int \frac{1}{3u} du$$

$$= 8 \cdot \frac{1}{3} \cdot \int \frac{1}{u} du$$

$$= 8 \cdot \frac{1}{3} \ln|u|$$

$$= \frac{8}{3} \ln|3x + 10| + C$$