BACCALAURÉAT GÉNÉRAL ET TECHNOLOGIQUE
ÉPREUVE SPÉCIFIQUE DES SECTIONS EUROPÉENNES
MATHEMATIQUES – ANGLAIS

CORRIGÉ 13 – Dido's legend

Thème : Geometry

Exercise

We can consider that the hide of an ox measures 210 cm long and 200 cm large. To build a rope of k cm long Dido needed a strip of k cm long and 1.25 cm large.

a) First, we calculate the number of strips she could get : $\frac{200}{1.25} = 160$ (or $\frac{210}{1.25} = 168$). Then we multiply the result by the length of the hide : $160 \times 210 = 33{,}600\ cm = 336m$

(or $168 \times 200 = 33{,}600\ cm = 336m$)

b) $P = \frac{2\pi r}{2}$ so $r = \frac{P}{\pi} = \frac{336}{\pi} \simeq 107m$

c) $A = \frac{\pi \times r^2}{2} = \frac{\pi \times \left(\frac{336}{\pi}\right)^2}{2} \simeq 17{,}968\ m^2$

d) A side of the square equals the perimeter divided by 3:

$c = \frac{336}{3} = 112\ m$

We deduce: $A = 112^2 = 12{,}544\ m^2$

Dido was a very smart woman!