Tema 7: integrales múltiples

Resultados: experimentación activa

01-E

a) $I = \int_0^5 \int_2^{\frac{3}{5}x+2} f(x,y)\, dydx + \int_5^8 \int_2^{10-x} f(x,y)\, dydx = \int_2^5 \int_{\frac{5}{3}(y-2)}^{10-y} f(x,y)\, dxdy$

b) $I = \int_5^6 \int_0^{ln(x-4)} f(x,y)\, dydx = \int_0^{ln2} \int_{4-e^y}^6 f(x,y)\, dxdy$

c) $I = \int_0^3 \int_{\frac{y^2}{24}}^{\frac{2}{3}y} f(x,y)dx\, dy + \int_3^4 \int_{\frac{y^2}{24}}^{6-\frac{4}{3}y} f(x,y)dx\, dy = \int_0^{2/3} \int_{\frac{3}{2}x}^{\sqrt{24x}} f(x,y)dy\, dx +$

$\int_{\frac{2}{3}}^2 \int_{\frac{3}{2}x}^{-\frac{3}{4}(x-6)} f(x,y)dy\, dx$

02-E

a) $A = \frac{56}{3}$

b) $A = 15{,}5$

c) $A = 4ln(4) - 5$

03-E

a) $I = 45$

b) $I = 18$

c) $I = 8\sqrt{3} - 4/3$

04-E

a) $A = 36\pi$

b) $A = \frac{4}{3}\pi - \frac{\sqrt{3}}{8}$

05-E

a) $I = 272$

b) $I = \frac{176}{9}$

06-E

a) $I = \frac{25}{16}\left(\frac{17}{3}\pi - \frac{25}{2}\sqrt{3}\right)$

b) $I = \frac{16}{3} - \frac{11}{3}\sqrt{2}$

c) $I = \frac{357}{20}\pi$

07-E

a) $V = 54$

b) $V = \frac{40}{3}$

c) $V = \frac{17}{3}$

08-E

a) $V = \frac{81}{8}\pi$

b) $V = \frac{243}{2}\pi$

c) $V = \frac{2}{3} - \frac{1}{32}\pi$

09-E

a) $V = \frac{32}{3}\pi$

b) $V = 63\pi$

10-E

a) masa $= \frac{248}{5}\pi$