

R E S P O S T A S

01. $g(x) = \frac{4}{5} \sqrt[4]{x^5} + \frac{6}{5}$ **02.** $f(x) = e^{\frac{x^2-1}{2}}$ **06.** $f(x) = \frac{x^4}{12} + e^x + 1$ **07.** $y = x^2 + x - 6$

09.

a) $\varphi'(x) = \sqrt[3]{1+x^4}$ **b)** $\varphi'(x) = \cos x \cdot \ln^5(\sin x) + \sin x \cdot \ln^5(\cos x)$
c) $\varphi'(x) = e^x \cdot \cos(e^{2x}) - 2x \cdot \cos(x^2 - 1)^2$

10.

a) $\frac{1}{3}$ **b)** 5 **c)** 4 **d)** 4 **e)** 43 **f)** $-\pi^2$

11.

a) $\frac{2}{15}$ **b)** $\frac{1}{2}$ **c)** $\frac{16}{3}\sqrt{2}$ **d)** $\sqrt{2} - 1$ **e)** $\frac{5}{3}$ **f)** $\frac{1}{3}$
g) $\frac{2}{3}(2\sqrt{2} + 5)$ **h)** 8 **i)** $\frac{64}{3}$

12. $\frac{16}{3}$

13. A integral vale $\frac{3}{2}$ e a área vale $\frac{73}{6}$

14.

a) 1 **b)** 1 **c)** $\frac{5}{2}$ **d)** $\frac{32}{3}$

18.

a) $g(0) = 0, g(1) = 2, g(2) = 5, g(3) = 7, g(6) = 3$ **b)** (0, 3) **c)** $x = 3$

19. Nenhuma das quatro pessoas está com a razão!

20.

a) 4 **b)** Diverge **c)** Diverge **d)** Diverge **e)** $\frac{1}{2}$ **f)** 0

