2

Problem # 1 answer:

$$\frac{1}{x+1} + \frac{2-x}{x^2-x+1}$$

Problem # 2 answer:

$$\frac{2}{\sqrt{3}} \tan^{-1}\left(\frac{2x-1}{\sqrt{3}}\right) + C$$

Problem # 3 answer:

$$\ln(2) + \frac{\pi}{\sqrt{3}}$$

Problem # 4 answer:

$$y = \sqrt{5 e^{x^4/2} - 1}$$

Problem # 5 answer:

$$y = (x+1) e^{-x^3}$$

Problem # 6 answer:

$$34/15$$

Problem # 7 answer:

$$(1,1) \qquad r = \sqrt{2}$$

Problem # 8 answer:

$$-\frac{\pi}{4} \; \& \; \frac{3\pi}{4} \qquad 135° \; \& \; -45°$$

Problem # 9 answer:

$$1$$

Problem # 10 answer:

$$\frac{\pi}{2}$$

Problem # 11 answer:

$$\sqrt{2} \ \pi$$

Problem # 12 answer:

$$\frac{\pi}{4} + \frac{(x-1)}{2}$$

Problem # 13 answer:

$$x + \frac{x^3}{6}$$

Problem # 14 answer:

(a) -1

(b) -1

Problem # 15 answer:

(a) $3(x-1) + 3(x-1)^2$

(b) $.33$

(c) $.001$

4

Problem # 16 answer:

(a) $$x^2 - \frac{x^4}{2}$$

(b) $$.0392$$

(c) $$4$$

Problem # 17 answer:

(a) $$4 + 4\ln 2\,(x-2) + 2\ln(2)^2\,(x-2)^2$$

(b) $$4.28687 \quad \text{or} \quad 4.28688$$

(c) $$2.1 \qquad \int_2^{2.1} (\ln 2)^3\, 2^z\, \frac{(z-2)^2}{2}\, dz$$

(d) $$.00033$$