

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:

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

Problem # 5 answer:

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

Problem # 6 answer:

$$\frac{34}{15}$$

Problem # 7 answer:

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

Problem # 8 answer:

$$-\frac{\pi}{4} \leq \frac{3\pi}{4} \quad 135^\circ \leq -45^\circ$$

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)

$$.001$$

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 or  
4.28688

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

(d) ,00033

→ A year later this should be  
 $\int_2^x (\ln 2)^3 z \frac{(x-z)^2}{2} dz$   
 doesn't change  
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