

Set 7 Answers (For #2b and 3b, the 'n' is a strange looking 'pi')

<p>1)</p> <p>a) $\ln 2$ b) $k = \sqrt{2}$ c) $\frac{1}{\sqrt{6}} \ln 2$</p>	<p>7) a) $\frac{2}{3} + \frac{2}{\pi}$ b) $\pi \int_0^1 [(1 + \sin(\pi x))^2 - x^4] dx$</p>										
<p>2)</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 50px;">a</td> <td>13/6</td> </tr> <tr> <td>b</td> <td>$(158/15)\pi$</td> </tr> </tbody> </table>	a	13/6	b	$(158/15)\pi$	<p>8)</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 50px;">a</td> <td>2</td> </tr> <tr> <td>b</td> <td>$\frac{25}{4}$</td> </tr> <tr> <td>c</td> <td>$\ln \frac{9}{4}$</td> </tr> </tbody> </table>	a	2	b	$\frac{25}{4}$	c	$\ln \frac{9}{4}$
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<p>4)</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 50px;">a</td> <td>$\frac{\pi}{4} - \frac{1}{2}$</td> </tr> <tr> <td>b</td> <td>$\pi \int_0^{\frac{\pi}{4}} (\frac{\sec^4 x}{4} - \tan^4 x) dx$</td> </tr> </tbody> </table>	a	$\frac{\pi}{4} - \frac{1}{2}$	b	$\pi \int_0^{\frac{\pi}{4}} (\frac{\sec^4 x}{4} - \tan^4 x) dx$	<p>10)</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 50px;">a</td> <td>(2,4) (4,16) (-0.767, 0.588) or (-0.766, 0.588)</td> </tr> <tr> <td>b</td> <td>$\int_0^{0.588} 2\sqrt{y} dy + \int_{0.588}^4 (\sqrt{y} - \frac{\ln y}{\ln 2}) dy + \int_4^{16} (\frac{\ln y}{\ln 2} - \sqrt{y}) dy$ $\int_{-0.767}^2 (2^x - x^2) dx + \int_2^4 (x^2 - 2^x) dx$</td> </tr> <tr> <td>c</td> <td>$\int_{-0.767}^2 ((5 - x^2)^2 - (5 - 2^x)^2) dx$</td> </tr> </tbody> </table>	a	(2,4) (4,16) (-0.767, 0.588) or (-0.766, 0.588)	b	$\int_0^{0.588} 2\sqrt{y} dy + \int_{0.588}^4 (\sqrt{y} - \frac{\ln y}{\ln 2}) dy + \int_4^{16} (\frac{\ln y}{\ln 2} - \sqrt{y}) dy$ $\int_{-0.767}^2 (2^x - x^2) dx + \int_2^4 (x^2 - 2^x) dx$	c	$\int_{-0.767}^2 ((5 - x^2)^2 - (5 - 2^x)^2) dx$
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