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実習20.5

(1)

> Pi·int((2 + sqrt(1 - x²))², x=-1..1) - Pi·int((2 - sqrt(1 - x²))², x=-1..1)

$$\pi \left(\frac{28}{3} + 2\pi \right) - \pi \left(\frac{28}{3} - 2\pi \right) \tag{1}$$

> simplify(%)

$$4\pi^2 \tag{2}$$

(2)

> 2·Pi·int(sqrt(1 + diff(2 + sqrt(1 - x²), x)²)·abs(2 + sqrt(1 - x²)), x=-1..1) + 2·Pi
 ·int(sqrt(1 + diff(2 - sqrt(1 - x²), x)²)·abs(2 - sqrt(1 - x²)), x=-1..1)

$$2\pi(2 + 2\pi) + 2\pi(-2 + 2\pi) \tag{3}$$

> simplify(%)

$$8\pi^2 \tag{4}$$

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