





1. **Средняя зарплата в России**
в 2023 году составила **100,000** рублей в месяц.
Средняя зарплата в России в 2022 году составила **95,000** рублей в месяц.

2. **Средняя зарплата в США**
в 2023 году составила **100,000** долларов в месяц.
Средняя зарплата в США в 2022 году составила **95,000** долларов в месяц.

3. **Средняя зарплата в Германии**
в 2023 году составила **100,000** евро в месяц.
Средняя зарплата в Германии в 2022 году составила **95,000** евро в месяц.

4. **Средняя зарплата в Японии**
в 2023 году составила **100,000** иен в месяц.
(сентябрь, 2023)

1. (10 points) $\int_{-1}^1 (x^2 + 2x) dx$

The given function is a polynomial, so we can integrate it term by term. The integral of x^2 is $\frac{x^3}{3}$, and the integral of $2x$ is x^2 . We evaluate these from $x = -1$ to $x = 1$.

$$\begin{aligned} \int_{-1}^1 (x^2 + 2x) dx &= \left[\frac{x^3}{3} + x^2 \right]_{-1}^1 \\ &= \left(\frac{1^3}{3} + 1^2 \right) - \left(\frac{(-1)^3}{3} + (-1)^2 \right) \\ &= \left(\frac{1}{3} + 1 \right) - \left(-\frac{1}{3} + 1 \right) \\ &= \frac{4}{3} - \frac{2}{3} = \frac{2}{3} \end{aligned}$$

The value of the integral is $\frac{2}{3}$. This result is consistent with the geometric interpretation of the area under the curve, which is a parabola opening upwards, shifted to the right, and intersecting the x-axis at $x = -1$ and $x = 1$.

2. (10 points) $\int_0^1 (x^2 + 2x) dx$

The given function is a polynomial, so we can integrate it term by term. The integral of x^2 is $\frac{x^3}{3}$, and the integral of $2x$ is x^2 . We evaluate these from $x = 0$ to $x = 1$.

$$\begin{aligned} \int_0^1 (x^2 + 2x) dx &= \left[\frac{x^3}{3} + x^2 \right]_0^1 \\ &= \left(\frac{1^3}{3} + 1^2 \right) - \left(\frac{0^3}{3} + 0^2 \right) \\ &= \left(\frac{1}{3} + 1 \right) - 0 \\ &= \frac{4}{3} \end{aligned}$$

The value of the integral is $\frac{4}{3}$. This result is consistent with the geometric interpretation of the area under the curve, which is a parabola opening upwards, shifted to the right, and intersecting the x-axis at $x = -1$ and $x = 1$.

3. (10 points) $\int_{-1}^1 (x^2 + 2x) dx$

The given function is a polynomial, so we can integrate it term by term. The integral of x^2 is $\frac{x^3}{3}$, and the integral of $2x$ is x^2 . We evaluate these from $x = -1$ to $x = 1$.

$$\begin{aligned} \int_{-1}^1 (x^2 + 2x) dx &= \left[\frac{x^3}{3} + x^2 \right]_{-1}^1 \\ &= \left(\frac{1^3}{3} + 1^2 \right) - \left(\frac{(-1)^3}{3} + (-1)^2 \right) \\ &= \left(\frac{1}{3} + 1 \right) - \left(-\frac{1}{3} + 1 \right) \\ &= \frac{4}{3} - \frac{2}{3} = \frac{2}{3} \end{aligned}$$

The value of the integral is $\frac{2}{3}$. This result is consistent with the geometric interpretation of the area under the curve, which is a parabola opening upwards, shifted to the right, and intersecting the x-axis at $x = -1$ and $x = 1$.

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