

I 数学専攻・数学科

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$$\begin{aligned} & \vdots \quad - + , 4 \quad - \quad - \quad - \quad - 4 \quad (\quad) , \quad - 0 5 + + (, 1 5 + \\ & \vdots \\ & \vdots \end{aligned}$$

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$\dots + + + \dots \dots \dots 2$ **fl lž'** $\dots 0,5 + + (, 1, 5, +$
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7

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8

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$$\dots + 4 \dots + 0.5 + (1.5) + \dots$$

1.2

$$\begin{aligned}
 & \dots + 4 \dots + 0.5 + (1.5) + \\
 & \dots + 2 + 2
 \end{aligned}$$

$$\dots + 4 \dots + 0.5 + (1.5) + \dots$$

1.3

$$\begin{aligned}
 & \dots + 4 \dots + 0.5 + (1.5) + \\
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$$\dots + 4 \dots + 0.5 + (1.5) + \dots$$

1.4.1

$$\begin{aligned}
 & \dots + 4 \dots + 0 \dots + 1.5 + \dots + 2.5 + \\
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$$\dots + 4 \dots + 0 \dots + 1.5 + \dots + 2.5 + \dots$$

1.4.2

$$\begin{aligned}
 & \dots + 4 \dots + 0 \dots + 1.5 + \dots + 2.5 + \\
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1.4.3

$$\begin{aligned}
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$$(-1)^k \binom{2k}{k} \frac{1}{2^k} = \frac{(-1)^k (2k)!}{k! k! 2^k}$$

$$\begin{aligned} & \vdots \quad (-1)^k \binom{2k}{k} \frac{1}{2^k} = \frac{(-1)^k (2k)!}{k! k! 2^k} \\ & \vdots \\ & \vdots \\ & \vdots \end{aligned}$$

$$\begin{aligned} & \vdots \quad (-1)^k \binom{2k}{k} \frac{1}{2^k} = \frac{(-1)^k (2k)!}{k! k! 2^k} \\ & \vdots \\ & \vdots \\ & \vdots \end{aligned}$$

$$\begin{aligned} & \vdots \quad (-1)^k \binom{2k}{k} \frac{1}{2^k} = \frac{(-1)^k (2k)!}{k! k! 2^k} \\ & \vdots \\ & \vdots \\ & \vdots \end{aligned}$$

$$\begin{aligned} & \vdots \quad (-1)^k \binom{2k}{k} \frac{1}{2^k} = \frac{(-1)^k (2k)!}{k! k! 2^k} \\ & \vdots \\ & \vdots \\ & \vdots \end{aligned}$$

$$\begin{aligned} & \vdots \quad (-1)^k \binom{2k}{k} \frac{1}{2^k} = \frac{(-1)^k (2k)!}{k! k! 2^k} \\ & \vdots \\ & \vdots \\ & \vdots \end{aligned}$$

$$\begin{aligned} & \vdots \quad - + , 4 \quad / \quad , 2 \quad (\quad), \quad , 0 5 + + (, 1 5 . + \\ & \vdots \\ & \vdots \\ & \vdots \end{aligned}$$

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Discrepancy Theory

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$\int_0^1 \frac{1}{x^2} dx = \int_0^1 x^{-2} dx = \left[-x^{-1} \right]_0^1 = \left[-\frac{1}{x} \right]_0^1 = -\frac{1}{1} - \lim_{x \rightarrow 0^+} \left(-\frac{1}{x} \right) = -1 + \lim_{x \rightarrow 0^+} \frac{1}{x} = -1 + \infty = \infty$

$\int_1^2 \frac{1}{x^2} dx = \int_1^2 x^{-2} dx = \left[-x^{-1} \right]_1^2 = \left[-\frac{1}{x} \right]_1^2 = -\frac{1}{2} - \left(-\frac{1}{1} \right) = -\frac{1}{2} + 1 = \frac{1}{2}$

$\int_0^1 \frac{1}{\sqrt{x}} dx = \int_0^1 x^{-1/2} dx = \left[2x^{1/2} \right]_0^1 = \left[2\sqrt{x} \right]_0^1 = 2\sqrt{1} - \lim_{x \rightarrow 0^+} (2\sqrt{x}) = 2 - 0 = 2$

$\int_1^2 \frac{1}{\sqrt{x}} dx = \int_1^2 x^{-1/2} dx = \left[2x^{1/2} \right]_1^2 = \left[2\sqrt{x} \right]_1^2 = 2\sqrt{2} - 2\sqrt{1} = 2\sqrt{2} - 2$

$\int_0^1 \frac{1}{x^2} dx = \int_0^1 x^{-2} dx = \left[-x^{-1} \right]_0^1 = \left[-\frac{1}{x} \right]_0^1 = -\frac{1}{1} - \lim_{x \rightarrow 0^+} \left(-\frac{1}{x} \right) = -1 + \lim_{x \rightarrow 0^+} \frac{1}{x} = -1 + \infty = \infty$

$\int_1^2 \frac{1}{x^2} dx = \int_1^2 x^{-2} dx = \left[-x^{-1} \right]_1^2 = \left[-\frac{1}{x} \right]_1^2 = -\frac{1}{2} - \left(-\frac{1}{1} \right) = -\frac{1}{2} + 1 = \frac{1}{2}$

$\int_0^1 \frac{1}{\sqrt{x}} dx = \int_0^1 x^{-1/2} dx = \left[2x^{1/2} \right]_0^1 = \left[2\sqrt{x} \right]_0^1 = 2\sqrt{1} - \lim_{x \rightarrow 0^+} (2\sqrt{x}) = 2 - 0 = 2$

$\int_1^2 \frac{1}{\sqrt{x}} dx = \int_1^2 x^{-1/2} dx = \left[2x^{1/2} \right]_1^2 = \left[2\sqrt{x} \right]_1^2 = 2\sqrt{2} - 2\sqrt{1} = 2\sqrt{2} - 2$

GC_p

$\int_0^1 \frac{1}{x^2} dx = \int_0^1 x^{-2} dx = \left[-x^{-1} \right]_0^1 = \left[-\frac{1}{x} \right]_0^1 = -\frac{1}{1} - \lim_{x \rightarrow 0^+} \left(-\frac{1}{x} \right) = -1 + \lim_{x \rightarrow 0^+} \frac{1}{x} = -1 + \infty = \infty$

$\int_1^2 \frac{1}{x^2} dx = \int_1^2 x^{-2} dx = \left[-x^{-1} \right]_1^2 = \left[-\frac{1}{x} \right]_1^2 = -\frac{1}{2} - \left(-\frac{1}{1} \right) = -\frac{1}{2} + 1 = \frac{1}{2}$

$\int_0^1 \frac{1}{\sqrt{x}} dx = \int_0^1 x^{-1/2} dx = \left[2x^{1/2} \right]_0^1 = \left[2\sqrt{x} \right]_0^1 = 2\sqrt{1} - \lim_{x \rightarrow 0^+} (2\sqrt{x}) = 2 - 0 = 2$

$\int_1^2 \frac{1}{\sqrt{x}} dx = \int_1^2 x^{-1/2} dx = \left[2x^{1/2} \right]_1^2 = \left[2\sqrt{x} \right]_1^2 = 2\sqrt{2} - 2\sqrt{1} = 2\sqrt{2} - 2$

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$\int_0^1 \frac{1}{x^2} dx = \int_0^1 x^{-2} dx = \left[-x^{-1} \right]_0^1 = \left[-\frac{1}{x} \right]_0^1 = -\frac{1}{1} - \lim_{x \rightarrow 0^+} \left(-\frac{1}{x} \right) = -1 + \lim_{x \rightarrow 0^+} \frac{1}{x} = -1 + \infty = \infty$

$\int_1^2 \frac{1}{x^2} dx = \int_1^2 x^{-2} dx = \left[-x^{-1} \right]_1^2 = \left[-\frac{1}{x} \right]_1^2 = -\frac{1}{2} - \left(-\frac{1}{1} \right) = -\frac{1}{2} + 1 = \frac{1}{2}$

$\int_0^1 \frac{1}{\sqrt{x}} dx = \int_0^1 x^{-1/2} dx = \left[2x^{1/2} \right]_0^1 = \left[2\sqrt{x} \right]_0^1 = 2\sqrt{1} - \lim_{x \rightarrow 0^+} (2\sqrt{x}) = 2 - 0 = 2$

$\int_1^2 \frac{1}{\sqrt{x}} dx = \int_1^2 x^{-1/2} dx = \left[2x^{1/2} \right]_1^2 = \left[2\sqrt{x} \right]_1^2 = 2\sqrt{2} - 2\sqrt{1} = 2\sqrt{2} - 2$

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