$$\int_{-1}^{1} \frac{1}{x^2}\, dx$$

$$\int_{1}^{\infty} \frac{1}{(x-9)^2} dx$$

$$\int_1^{\infty} \frac{1}{x} dx$$

$$\int_1^{\infty} \frac{1}{\sqrt{x}}\, dx$$

$$\int_0^1 \frac{1}{x^2} dx$$

$$\int_0^1 \frac{1}{x} dx$$

$$\int_0^1 \frac{1}{\sqrt{x}}\,dx$$

$$\int_{-\infty}^{\infty} \frac{1}{x^2+1} dx$$

$$\int_0^\infty \frac{1}{e^x} dx$$

$$\int_1^\infty \frac{1}{x} dx$$

$$\int_1^\infty \frac{1}{x^n} dx$$

where n is a constant

$$\int_1^{\infty} \frac{1}{e^x + 1} dx$$

$$\int_{10}^{\infty} \frac{1}{x - 3} dx$$

$$\int_1^{\infty} \frac{1}{x+100}\,dx$$

Here is what I was trying to say but didn't

$$\int_1^{\infty} \frac{1}{x+100}\,dx = \int_{101}^{\infty} \frac{1}{x}\,dx$$

Which goes to infinity

$$\int_0^{\infty} \frac{1}{x^2 - 4}\, dx$$

Determine if it converges

If it does, find it's value.

$$\int_0^{\infty} \frac{dx}{x(1+\ln(x))^2}$$

$$\int_0^{\infty} \frac{dx}{x\left(1+\left(\ln(x)\right)^2\right)}$$

$$\int_{-\infty}^{\infty} e^{\left(-\frac{x^2}{2}\right)} dx$$

Use your calculator to estimate it.

The amount of sleep a calculus student gets the night before a calculus test is normally distributed with mean 4.7 hours and standard deviation 1.2 hours

What is the probability a randomly selected calculus student gets between 4 and 5.5 hours of sleep the night before an exam?

What is the probability that student gets more than 6.5 hours of sleep?

The distribution of weights of fish in a lake is known to be normal with a mean of 550 grams and a standard deviation of 180 grams. A biologist sets out to collect samples , hoping to select a random fish for some testing. He traps a single fish three days in a row and each time, the trapped fish weighs more than one kilogram. His superior claims that his experimental method is flawed. Why would she say that? What is the probability that all three fish weigh more than 1kg, if they were selected randomly?

The manufacturer of a new dishwasher claims the clean cycle time is normally distributed with mean 90 minutes and standard deviation 8 minutes. Suppose a dishwasher is selected at random. What is the probability that the clean cycle is between 82 and 116 minutes?

What is the probability that the clean cycle time is less than 78 minutes?

The weight of a package sent through overnight delivery service is normally distributed with a mean of 10 pounds and a standard deviation of 1.5 pounds. What is the probability that a package weighs between 7 and 9 pounds?

$$\int_1^{\infty} \frac{1dx}{x^2 + \sin(x)}$$

Find the area of the region in the first quadrant between $\tan(x)$ and $\sec(x)$ to the left of

$$x = \frac{\pi}{2}$$