You scored 0 out of 100

Question 1

You did not answer the question.

Calculate the limit.

$$\lim_{x \to \infty} 6\, x^4 \sin\left(\frac{1}{x}\right)$$

a) ⚪ 4

b) ⚪ 6

c) ⚪ ∞

d) ⚪ 0

e) ⚪ 1

Question 2

You did not answer the question.

Calculate the limit.

$$\lim_{x \to \infty} \frac{\ln\left(x^5\right)}{x}$$

a) ⚪ 1

b) ⚪ 0

c) ⚪ −1

d) ⚪ −5

e) ⚪ 5

Question 3

Calculate the limit.

$$\lim_{x \to \infty} \frac{\left(3\sqrt{1 + x^2}\right)}{\left(2x^2\right)}$$

a) $\dfrac{2}{3}$

b) 0

c) 1

d) $-\dfrac{3}{2}$

e) $\dfrac{3}{2}$

Question 4

Calculate the limit.

$$\lim_{x \to 1} x^{\left(\frac{5}{x - 1}\right)}$$

a) 1

b) e^5

c) 0

d) $\dfrac{1}{e^5}$

e) $-e^5$

Question 5

Calculate the limit.

$$\lim_{x \to 0} \left(\frac{9}{x} - 9 \cot(x) \right)$$

a) ⦿ $\dfrac{9}{2}$

b) ⦿ -9

c) ⦿ 0

d) ⦿ 9

e) ⦿ $\dfrac{9}{4}$

Question 6

Calculate the limit.

$$\lim_{x \to \infty} \left[\left(\frac{9}{x} \right) \left(\int_0^x \sin\left(\frac{1}{t+1} \right) dt \right) \right]$$

a) ⦿ $\dfrac{9}{2}$

b) ⦿ -9

c) ⦿ 0

d) ⦿ 9

e) ⦿ $\dfrac{9}{4}$

Question 7

Calculate the limit.

$$\lim_{x \to 0} \left(\frac{4}{\sin(x)} - \frac{4}{x} \right)$$

a) ⚪ 0

b) ⚪ −4

c) ⚪ −1

d) ⚪ 4

e) ⚪ 1

Question 8

You did not answer the question.

Calculate the limit.

$$\lim_{x \to 1} \left(\frac{7}{\ln(x)} - \frac{7x}{x-1} \right)$$

a) ⚪ $\dfrac{7}{2}$

b) ⚪ 14

c) ⚪ $-\dfrac{7}{2}$

d) ⚪ 7

e) ⚪ −7

Question 9

You did not answer the question.

Calculate the limit of the sequence.

$$\lim_{n \to \infty} \frac{n^k}{13^n}$$

a) ⚪ 0

b) ⚪ $-\dfrac{1}{13}$

c) $\quad\dfrac{1}{13}$

d) $\quad 1$

e) $\quad\infty$

Question 10

Calculate the limit of the sequence.

$$\lim_{n \to \infty} (\ln(n))^{\left(\frac{13}{n}\right)}$$

a) $\quad 1$

b) $\quad -13$

c) $\quad 0$

d) $\quad 13$

e) $\quad\infty$

Question 11

Evaluate the improper integral.

$$\int_0^\infty \frac{10}{4 + x^2}\, dx$$

a) $\quad 5\,\pi$

b) $\quad\dfrac{5}{2}\,\pi$

c) $\quad\dfrac{15}{4}\,\pi$

d) $\quad\dfrac{5}{4}\,\pi$

e) ⚪ $\dfrac{5}{3}\pi$

Question 12

You did not answer the question.

Evaluate the improper integral.

$$\int_0^{64} \dfrac{4}{x^{2/3}}\, dx$$

a) ⚪ 24

b) ⚪ 48

c) ⚪ 72

d) ⚪ 96

e) ⚪ 32

Question 13

You did not answer the question.

Evaluate the improper integral.

$$\int_0^1 \dfrac{10}{\sqrt{1-x^2}}\, dx$$

a) ⚪ 10π

b) ⚪ $\dfrac{10}{3}\pi$

c) ⚪ 5π

d) ⚪ $\dfrac{5}{2}\pi$

e) ⚪ $\dfrac{15}{2}\pi$

Question 14

Evaluate the improper integral.

$$\int_0^4 \frac{8x}{\sqrt{16-x^2}}\,dx$$

a) ⦿ 64

b) ⦿ 16

c) ⦿ 32

d) ⦿ *diverges*

e) ⦿ 48

Question 15

Evaluate the improper integral.

$$\int_{e^2}^\infty \frac{6\ln(x)}{x}\,dx$$

a) ⦿ 6

b) ⦿ 4

c) ⦿ 12

d) ⦿ *diverges*

e) ⦿ 2

Question 16

Evaluate the improper integral.

$$\int_0^1 2x \ln(x) \, dx$$

a) ○ $\dfrac{3}{4}$

b) ○ $\dfrac{1}{3}$

c) ○ *diverges*

d) ○ $-\dfrac{1}{2}$

e) ○ -1

Question 17

You did not answer the question.

Evaluate the improper integral.

$$\int_{-\infty}^{\infty} \frac{17}{x^2} \, dx$$

a) ○ -17

b) ○ 34

c) ○ $\sqrt{17}$

d) ○ *diverges*

e) ○ 17

Question 18

You did not answer the question.

Evaluate the improper integral.

$$\int_{\frac{1}{3}}^{3} \frac{10}{(3x-1)^{1/3}} \, dx$$

a) ● 30

b) ● $\dfrac{40}{3}$

c) ● *diverges*

d) ● 20

e) ● 40

Question 19

You did not answer the question.

Evaluate the improper integral.

$$\int_{-3}^{2} \frac{1}{x^2 - 4}\, dx$$

a) ● 1

b) ● 4

c) ● *diverges*

d) ● -6

e) ● 2

Question 20

You did not answer the question.

Evaluate the improper integral.

$$\int_{0}^{\frac{1}{2}\pi} \frac{7\cos(x)}{\sqrt{\sin(x)}}\, dx$$

a) ● 7

b) ○ $\dfrac{28}{3}$

c) ○ 14

d) ○ *diverges*

e) ○ 21