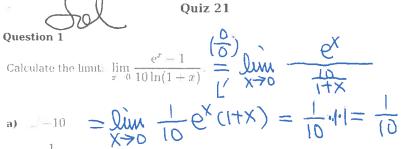


Print Test

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PRINTABLE VERSION



- c) = 1
- d)
- e) -1

Question 2

Calculate the limit: $\lim_{x \to 2} \frac{x-2}{x^2-4}$ By 1' Hô pital's rule $\frac{1}{2} = \frac{1}{2}$ $\frac{1}{2} = \frac{1}{2}$

c)
$$-\frac{1}{4}$$

d)
$$-\frac{1}{4}$$

$$(x) = \frac{10}{10} = \frac{10}{10}$$

$$OR$$
 $(x-2)$ O

b) = 0
$$\lim_{x \to z} \frac{(x-z)}{(x+z)(x-z)} = \lim_{x \to z} \frac{1}{x+z} = \frac{1}{4}$$

e) _ 1

Question 3

Calculate the limit:
$$\lim_{x \to 0} \frac{3 \arctan(x)}{x} = \frac{0}{1+x^2}$$

Question 3

Calculate the limit:
$$\lim_{x \to 0} \frac{3 \arctan(x)}{x} = \lim_{x \to 0} \frac{3}{1+X^2}$$

a) 1

$$\lim_{x \to 0} \frac{3 \arctan(x)}{x} = \lim_{x \to 0} \frac{3}{1+X^2} = 3$$

b) 0

- c) = -3
- d) 3
- e) -1

Ouestion 4

Calculate the limit:
$$\lim_{x\to 0} \frac{e^x + e^{-x} - 2}{1 - \cos(11x)}$$
. $\frac{\binom{5}{0}}{1}$ $\lim_{x\to 0} \frac{e^x - e^x}{1|Sin(1|x)|}$

a)
$$\frac{121}{2}$$
 $\frac{(8)}{1}$ $\lim_{z \to 0} \frac{e^{x} + e^{x}}{11^{2} \cos(11x)} = \frac{e^{0} + e^{0}}{11^{2} \cdot 1} = \frac{2}{121}$

- \mathbf{c}) = 0
- \mathbf{d}) =1

Question 5

Calculate the limit:
$$\lim_{x\to 0} \frac{3+3x-3e^x}{6x(e^x-1)} \cdot \frac{\binom{0}{0}}{\cancel{1}} \underbrace{\lim_{x\to 0} \frac{3-3e^x}{6(e^x-1)+6xe^x}}$$

a)
$$= 0$$
 $= \frac{(0)}{6}$ $= \frac{-3e^{x}}{12}$ $= \frac{-3e^{0}}{60} = \frac{-3}{12}$ b) $= -\frac{1}{4}$ $= \frac{-3e^{0}}{12} = \frac{-3}{12}$

c)
$$=\frac{1}{2}$$

- d) -4
- e) $=\frac{1}{4}$

Calculate the limit: $\lim_{x \to 0} \frac{xe^{9x} - x}{1 - \cos(9x)} = \frac{\begin{pmatrix} 0 \\ 0 \end{pmatrix}}{2} \lim_{x \to 0} \frac{qx}{e + qxe} = \frac{qx}{-1}$ $\frac{\left(\frac{1}{6}\right) \lim_{x \to 0} \frac{9e^{4}9e^{9x}+9xe^{4x}}{81\cos(9x)}$

a)
$$=$$
 $\frac{2}{9}$

b)
$$=$$
 $\frac{9}{2}$

c)
$$=\frac{4}{9}$$

Question 7

Calculate the limit:
$$\lim_{x \to 0} \frac{4x - \sin(\pi x)}{2x^2 - 1} = \frac{\bigcirc -\bigcirc}{2 \cdot \bigcirc -\bigcirc} = \frac{\bigcirc}{1} = \bigcirc$$

c)
$$2\pi$$

Question 8

Calculate the limit: $\lim_{x \to \infty} \frac{\ln(x^7)}{x}$

$$=\lim_{X\to\infty}\frac{7}{X}=0$$

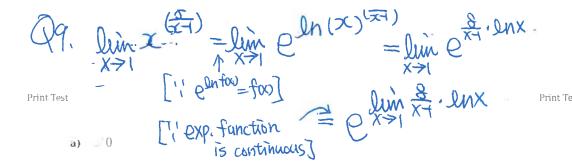
b)
$$=\frac{1}{7}$$

Ouestion 9

4 of 6

Calculate the limit: $\lim_{x \to 1} x^{\left(\frac{k}{k-1}\right)}$.

 $= \frac{9e^{6}+9e^{6}+0}{81\cos(6)} = \frac{9t9}{81} = \frac{2}{9}$



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b)
$$-e^{8}$$
 $\lim_{x \to 1} \frac{8 \ln x}{x-1}$ $= e^{8}$

Calculate the limit:
$$\lim_{x \to 0} \left(\frac{8}{x} - 8\cot(x) \right)$$
. Combine $\left(\frac{8}{X} - \frac{8\cos(X)}{\sin(X)} \right)$

a)
$$=$$
 $\lim_{x \to 0} \left(\frac{8 \sin(x) - 8 x \cos(x)}{x \sin(x)} \right)$

c)
$$=0$$

Question 11

Calculate the limit: $\lim_{x \to \infty} \left(x^6 + 1 \right)^{\frac{1}{\ln(x)}}$.

- a) __e⁷
- b) ()

d)
$$-e^7$$

$$\frac{8 \operatorname{lin} \times 1}{\operatorname{x-1}} = 8$$

$$\lim_{x \to 1} \frac{8 \operatorname{lin} \times 1}{\operatorname{x-1}} = 8$$

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$$\lim_$$

$$=\frac{0}{2}=0$$