

E026 Online test

Ref 27

$\frac{dy}{dx} = 8x^2$  Find Y

A	$1/X^3 + C$	B	$3X^4 + C$
C	$X^3 + C$	D	$\ln X + C$
Answer			

Ref 28

Solve  $y'' = 3x - 2$ ,  $y(0) = 2$ ,  $y'(1) = -3$ , the generalized answer is

A	$X^4 - X^3 - X^2 - 5/2 X + 2$	B	$X^2 - 3X + 2$
C	$X^3 - X^2 - X^2 - 5/2 X + 2$	D	$X^3 - 3X + 2$
Answer			

Ref 29

Find general equation of

$(4X + XY^2)dX + (Y + X^2Y)dY = 0$

A	$1/(1+X^2) + 1/(1+Y^2)$	B	$\ln(1+X^2) + 1/3 \ln(4+Y^2)$
C	$\ln(1+X^2) + 1/2 \ln(4+Y^2)$	D	$(1+X^2) + (4+Y^2)$
Answer			

Ref 30

Evaluate the following

$\Gamma(6)$

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$2 \Gamma(3)$

A	10	B	25
C	15	D	30
Answer			

Ref 31

Evaluate the following

$$\Gamma(5/2)$$

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$$\Gamma(1/2)$$

A	3	B	3 / 2
C	3 / 4	D	1 / 3
Answer			

Ref 32

Find the volume of region R bounded by parabolic cylinder  $Z = 4 - X^2$  & planes  $X = 0, Y=0, Y=6, Z=0$

A	32	B	16
C	42	D	64
Answer			

Ref33

Laplace transform of  $5 \sin 2t - 3 \cos 2t$  is

A	$\frac{10}{S^2 + 4}$	B	$\frac{3S - 10}{S^2 + 4}$
C	$\frac{10 - 3S}{S^2 + 4}$	D	$\frac{3S}{S^2 + 4}$
Answer			

Ref34

. Find

$$4S - 3$$

$$\mathcal{L}^{-1} \text{ -----}$$

$$S^2 + 4$$

A	$3/2 \sin 2t - 4 \cos 2t$	B	$\sin 3t - \cos 4t$
C	$4 \sin 2t - 3/2 \cos 2t$	D	$4 \cos 2t - 3/2 \sin 2t$
<b>Answer</b>			

Ref 35

Find

$$4s - 3$$

$$\mathcal{L}^{-1} \frac{\text{-----}}{s^{3/2}}$$

A	$\frac{8t^{-1/2} - 5t^{-1/2}}{\sqrt{\pi}}$	B	$\frac{5t^2}{\sqrt{\pi}}$
C	$\frac{8t^{-1/2} - 5t}{\sqrt{\pi}}$	D	$\frac{8t^2 - 5}{\sqrt{\pi}}$
<b>Answer</b>			

Ref 36

. Find

$$1$$

$$\mathcal{L}^{-1} \frac{\text{-----}}{s^2 + 2s}$$

A	$t - e^{-t}$	B	$\frac{1}{2}t - \frac{1}{2}e^{-2t}$
C	$\frac{1}{2}t - \frac{1}{2}e^t$	D	$2t - e^{2t}$
<b>Answer</b>			

Ref37

The solution of the given differential equation  $y' - 3y' + 2y = 2e^{-t}$  where  $y(0) = 2$ ,  $y'(0) = -1$  by Laplace transform is

A	$7e^{2t} + 4e^t + e^{-t}$	B	$-7/3 e^{-2t} + 4e^t + 1/3 e^{-t}$
C	$3e^{2t} + e^t + 3e^{-t}$	D	$-7e^{-2t} + e^t + 3e^{-3t}$
<b>Answer</b>			

Ref38

A resistor  $R = 10 \Omega$  Inductor 2H and a voltage E volt are connected in series with switch S .

At  $t = 0$ , the switch is closed and  $I = 0$ .

Find I for  $t > 0$  if  $E = 40V$

A	$4t$	B	$4 - e^{-t}$
C	$4t - 4e^{-5t}$	D	$4$
<b>Answer</b>			

Ref39

Inverse matrix of the matrix for given equations

$$3X_1 - 2X_2 + 2X_3 = 10 \quad X_1 + 2X_2 - 2X_3 = -1 \quad 4X_1 + X_2 + 2X_3 = 3 \text{ is}$$

A	$\begin{pmatrix} 1 & 6 & 1 \\ 2 & 3 & 4 \\ 7 & 11 & 8 \end{pmatrix}$	B	$\begin{pmatrix} 7 & 6 & 2 \\ 14 & -2 & 11 \\ -7 & -11 & 8 \end{pmatrix}$
C	$\begin{pmatrix} \frac{1}{35} & \frac{6}{35} & \frac{1}{35} \\ -14 & -2 & 11 \\ -7 & -11 & -8 \end{pmatrix}$	D	$\begin{pmatrix} \frac{7}{35} & \frac{6}{15} & \frac{2}{35} \\ -14 & -2 & 11 \\ \frac{-7}{35} & \frac{-11}{35} & \frac{8}{35} \\ \frac{-7}{35} & \frac{-11}{35} & \frac{8}{35} \end{pmatrix}$
<b>Answer</b>			

