

Find the inverse Laplace Transform of the following:

$$(i) \frac{1}{s-2} \quad (ii) \frac{1}{s^2-9} \quad (iii) \frac{s}{s^2-16} \quad (iv) \frac{1}{s^2+25} \quad (v) \frac{s}{s^2+9}$$

$$(vi) \frac{1}{(s-2)^2+1} \quad (vii) \frac{s-1}{(s-1)^2+4} \quad (viii) \frac{1}{(s+3)^2-4} \quad (ix) \frac{s+2}{(s+2)^2-25} \quad (x) \frac{1}{2s-7}$$

Find the inverse Laplace transform of

$$(i) \frac{s^2+s+2}{s^{3/2}} \quad (ii) \frac{2s-5}{9s^2-25} \quad (iii) \frac{s-2}{6s^2+20}$$

Find the inverse Laplace transform of

$$(i) \frac{s}{s^2+1} \quad (ii) \frac{s}{4s^2-25} \quad (iii) \frac{3s}{2s+9}$$

Find the inverse Laplace transform of

$$(i) \frac{1}{s(s+a)} \quad (ii) \frac{1}{s(s^2+1)} \quad (iii) \frac{s^2+3}{s(s^2+9)}$$

Find the inverse Laplace transform of

$$(i) \frac{1}{(s+2)^5} \quad (ii) \frac{s}{s^2+4s+13} \quad (iii) \frac{1}{9s^2+6s+1}$$

Obtain inverse Laplace transform of

$$(i) \frac{e^{-\pi s}}{(s+3)} \quad (ii) \frac{e^{-s}}{(s+1)^3}$$

Find inverse Laplace transform of $\tan^{-1} \frac{1}{s}$.

Obtain the inverse Laplace transform of $\log \frac{s^2-1}{s^2}$.

Find $L^{-1} \left[\cot^{-1} (1+s) \right]$.

Obtain $L^{-1} \frac{2s}{(s^2+1)^2}$.

. Find the inverse transforms of $\frac{1}{s^2 - 5s + 6}$.

. Find the inverse Laplace transforms of

$$\frac{s - 1}{s^2 - 6s + 25}$$

Find the inverse Laplace transforms of

$$\frac{s + 4}{s(s - 1)(s^2 + 4)}$$

Find the Laplace inverse of

$$\frac{s^2}{(s^2 + a^2)(s^2 + b^2)}$$