

SUB: MAE3360

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ASSIGNMENT # 08

DOE ON: 04/09/08

QUESTIONS:

Find the inverse Laplace transform:

(1) $L^{-1}\left[\frac{3s+2}{(s-1)(s-2)}\right]$ (2) $L^{-1}\left[\frac{s-2}{(s+1)(s^2+4)}\right]$

(3) $L^{-1}\left[\frac{2s+3}{(s^2+4)(s^2+1)}\right]$ (4) $L^{-1}\left[\frac{s+4}{s^2+6s+13}\right]$

(5) $L^{-1}\left[\frac{s}{(s+1)^2+4}\right]$

Use Laplace transform to solve the given IVP.

(6) $y'' + y' - 2y = 0$; $y(0) = 1$; $y'(0) = 4$

(7) $y'' + 5y' + 4y = 20 \sin 2t$; $y(0) = 1$; $y'(0) = -2$

(8) $y'' - 4y = 2te^t$; $y(0) = 0$; $y'(0) = 0$