การบ้าน Laplace Transform.

จงแก้สมการต่อไปนี้โดยใช้วิธีการแปลงลาปลาซ

1. $y'' + 4y = 0;$ $y(0) = 2,$ $y'(0) = -8$

2. $y'' + \omega^2 y = 0;$ $y(0) = A,$ $y'(0) = B$

3. $y'' + 25y = t;$ $y(0) = 1,$ $y'(0) = 0.04$

4. $y'' + ky' - 2k^2 y = 0;$ $y(0) = 2,$ $y'(0) = 2k$

5. $4y'' + \pi^2 y = 0;$ $y(0) = 0,$ $y'(0) = 1$

6. $y'' + 2y' - 8y = 0;$ $y(0) = 0,$ $y'(0) = 0$

7. $y'' - 4y' + 3y = 2t - 8/3;$ $y(0) = 0,$ $y'(0) = -16/3$

8. $y'' + 4y' = 1 - 2t;$ $y(0) = 0,$ $y'(0) = 0$

9. $y'' + \pi^2 y = t^3;$ $y(0) = 6/\pi^4,$ $y'(0) = 0$

10. $y'' + 8y' + 25y = 100;$ $y(0) = 2,$ $y'(0) = 20$