

จงหาลาปลาซทรานส์ฟอร์มกลับ ต่อไปนี้

คำถาม	คำตอบ
1. $\mathcal{L}^{-1}\left[\frac{3}{s+4}\right]$	$3e^{-4t}$
2. $\mathcal{L}^{-1}\left[\frac{1}{2s-5}\right]$	$\frac{1}{2}e^{5t/2}$
3. $\mathcal{L}^{-1}\left[\frac{8s}{s^2+16}\right]$	$8\cos 4t$
4. $\mathcal{L}^{-1}\left[\frac{6}{s^2+4}\right]$	$3\sin 2t$
5. $\mathcal{L}^{-1}\left[\frac{3s-12}{s^2+8}\right]$	$3\cos 2\sqrt{2}t - 3\sqrt{2}\sin 2\sqrt{2}t$
6. $\mathcal{L}^{-1}\left[\frac{2s-5}{s^2-9}\right]$	$2\cosh 3t - \frac{5}{2}\sinh 3t$
7. $\mathcal{L}^{-1}\left[\frac{1}{s^5}\right]$	$t^4/24$
8. $\mathcal{L}^{-1}\left[\frac{1}{s^{7/2}}\right]$	$8t^{5/2}/15\sqrt{\pi}$
9. $\mathcal{L}^{-1}\left[\frac{12}{4-3s}\right]$	$-4e^{4t/3}$
10. $\mathcal{L}^{-1}\left[\frac{s+1}{s^{4/3}}\right]$	$(t^{-2/3} + 3t^{1/3})\Gamma\left(\frac{1}{3}\right)$
11. $\mathcal{L}^{-1}\left[\left(\frac{\sqrt{s}-1}{s}\right)^2\right]$	$1+t-4t^{1/2}/\sqrt{\pi}$

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12. $\mathcal{L}^{-1}\left[\frac{2s+1}{s(s+1)}\right]$	$1 + e^{-t}$
13. $\mathcal{L}^{-1}\left[\frac{3s-8}{4s^2+25}\right]$	$\frac{3}{4}\cos 5t/2 - \frac{4}{5}\sin 5t/2$
14. $\mathcal{L}^{-1}\left[\frac{5s+10}{9s^2-16}\right]$	$\frac{5}{9}\cosh 4t/3 + \frac{5}{6}\sin 4t/3$
15. $\mathcal{L}^{-1}\left[\frac{3s-8}{s^2+4} - \frac{4s-24}{s^2-16}\right]$	$3\cos 2t - 4\sin 2t - 4\cosh 4t + 6\sinh 4t$
16. $\mathcal{L}^{-1}\left[\frac{3s-2}{s^{5/2}} - \frac{7}{3s+2}\right]$	$6t^{1/2}/\sqrt{\pi} - 8t^{3/2}/3\sqrt{\pi} - \frac{7}{3}e^{-2t/3}$
17. $\mathcal{L}^{-1}\left[\frac{s}{(s+1)^5}\right]$	$\frac{e^{-t}}{24}(4t^3 - t^4)$
18. $\mathcal{L}^{-1}\left[\frac{s}{(s+1)^{5/2}}\right]$	$\frac{2t^{1/2}(3-2)t}{3\sqrt{\pi}}$
19. $\mathcal{L}^{-1}\left[\frac{3s-14}{s^2-4s+8}\right]$	$e^{2t}(3\cos 2t - 4\sin 2t)$
20. $\mathcal{L}^{-1}\left[\frac{8s+20}{s^2-12s+32}\right]$	$2e^{6t}(4\cosh 2t + 7\sinh 2t) = 11e^{8t} - 3e^{4t}$