$$D^4 \cos x = \cos x$$

$$D^5 \cos x = -\sin x$$

We see that the successive derivatives occur in a cycle of length 4 and, in particular, $D^n \cos x = \cos x$ whenever n is a multiple of 4. Therefore

$$D^{24} \cos x = \cos x$$

13. $y = \dfrac{x}{1 - x}$

14. $y = xe^{cx}$

41. A car starts from rest and the graph of its position function is

49. A particle moves according to a law of motion
$s = f(t) = t^3 - 12t^2 + 36t$, $t \geq 0$, where t is measured in
seconds and s in meters.
(a) Find the acceleration at time t and after 3 s.

57. For what values of r does the function $y = e^{rx}$ satisfy the equation $y'' + 5y' - 6y = 0$?

58. Find the values of λ for which $y = e^{\lambda x}$ satisfies the equation
$y + y' = y''$