

Particular Solutions

p. 327 - 331 (4.9)

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To find a particular solution with an initial condition:

1. Integrate $F(x)$
2. Find $y = F(x)$ using the point (x, y) to solve for "C"
3. Plug "C" into $F(x)$

** What is the graphical relationship to each graph
of $y = \int (f(x)) dx$?? **

1. Find the particular solution of y if $y' = (3x^2 - 1)$ and is passing through $(2, 4)$.

2. Find the particular solution of $F'(x) = \frac{3}{x^4}$, $x > 0$ and passing through $(1, 2)$.

**3. The acceleration of a particle moving along the x -axis at a time t is given by $a(t) = 6t - 2$. If the velocity is 25 when $t = 3$ and the position is 10 when $t = 1$, then the position $x(t) = \underline{\hspace{2cm}}$.