$$1 - \frac{x}{1!} + \frac{x(x-1)}{2!} - \frac{x(x-1)(x-2)}{3!} = \frac{(x-1)(x-2)}{2} - \frac{x(x-1)(x-2)}{2}$$
$$1 - \frac{x}{1!} + \frac{x(x-1)}{2!} - \frac{x(x-1)(x-2)}{3!} = \frac{x(x-1)(x-2)}{3!} = \frac{x(x-1)(x-2)}{2!} = \frac{x(x-1)(x-2)}{3!} = \frac{x(x-1)(x-2$$

 $=\frac{(x-1)(x-2)}{2}-\frac{x(x-1)(x-2)}{6}=$

 $= -\frac{(x-1)(x-2)(x-3)}{3!}$