$$\int\left(e^{3x}\,\text{sen}(2x)+\frac{x}{x-2}\right)dx=$$

Utilizzando i metodi di scomposizione e parti

$$\int e^{3x}\,\text{sen}(2x)dx+\int\frac{x}{x-2}dx=\frac{1}{3}\int 3e^{3x}\,\text{sen}(2x)dx+\int\frac{x-2+2}{x-2}dx=$$

'' $$=\frac{1}{3}\left[e^{3x}\,\text{sen}(2x)-2\int e^{3x}\cos(2x)dx\right]+\int\frac{x-2}{x-2}dx+\int\frac{2}{x-2}dx+=$$

'' $$=\frac{1}{3}e^{3x}\,\text{sen}(2x)-\frac{2}{3}\int e^{3x}\cos(2x)dx+x+2\ln|x-2|+c$$

'' $$=\frac{1}{3}e^{3x}\,\text{sen}(2x)-\frac{2}{9}\left[e^{3x}\cos(2x)+2\int e^{3x}\,\text{sen}(2x)dx\right]+x+2\ln|x-2|+c$$

$$\int e^{3x}\,\text{sen}(2x)dx+\int\frac{x}{x-2}dx=\frac{1}{3}e^{3x}\,\text{sen}(2x)-\frac{2}{9}e^{3x}\cos(2x)-\frac{4}{9}\int e^{3x}\,\text{sen}(2x)dx+x+2\ln|x-2|+c$$

$$\frac{13}{9}\int e^{3x}\,\text{sen}(2x)dx+\int\frac{x}{x-2}dx=\frac{1}{3}e^{3x}\,\text{sen}(2x)-\frac{2}{9}e^{3x}\cos(2x)+x+2\ln|x-2|+c$$

$$\int e^{3x}\,\text{sen}(2x)dx+\int\frac{x}{x-2}dx=\frac{3}{13}e^{3x}\,\text{sen}(2x)-\frac{2}{13}e^{3x}\cos(2x)+x+2\ln|x-2|+c$$