

Find the inverse Laplace transform of

$$F(s) = \frac{s+9}{(s-1)(s^2+4)}.$$

Solution: Expanding into partial fractions, we get

$$\frac{2}{s-1} + \frac{-2s-1}{s^2+4}.$$

The inverse Laplace transform is

$$2e^t - 2\cos 2t - \frac{1}{2}\sin 2t.$$