

TWK2A

The Inverse Laplace transform (Section 7.2)

Problems

Find the inverse Laplace transform of the following:

1.

$$F(s) = \frac{1}{s^2} - \frac{48}{s^5}$$

2.

$$F(s) = \left(\frac{2}{s} - \frac{1}{s^3} \right)^2$$

3.

$$F(s) = \frac{1}{4s + 1}$$

4.

$$F(s) = \frac{10s}{s^2 + 16}$$

5.

$$F(s) = \frac{2s - 6}{s^2 + 9}$$

6.

$$F(s) = \frac{1}{s^2 + s - 20}$$

7.

$$F(s) = \frac{(s + 2)^2}{s^3}$$

8.

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

9.

$$F(s) = \frac{6s + 3}{s^4 + 5s^2 + 4}$$

10.

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

11.

$$F(s) = \frac{(s+1)^3}{s^4}$$

12.

$$F(s) = \frac{1}{s^2 + 5}$$