

**P1 Concept:** Inverse Laplace Transform with real, unique poles

**Find:**  $f(t)$  given  $F(s) = \frac{2s}{s^2 + 3s + 2}$

**Hint:** One coefficient is 4

**P2 Concept:** Inverse Laplace Transform with real, repeated poles

**Find:**  $f(t)$  given  $F(s) = \frac{4}{(s+1)^2(s+2)}$

**Hint:** One coefficient is 4

**P3 Concept:** Inverse Laplace Transform with three parts including step functions

**Find:**  $f(t)$  given  $F(s) = \frac{s^2 + 9s + 6}{s^3 + 4s^2 + 3s}$

**Hint:** One coefficient is 2

**P4 Concept:** Inverse Laplace Transform: improper fractions = impulses

**Find:**  $f(t)$  given  $F(s) = \frac{4s^2 + 18s + 11}{s^2 + 5s + 4}$

**Hint:** Is it proper?

**P5 Concept:** Inverse Laplace Transform with complex conjugate roots

**Find:**  $f(t)$  given  $F(s) = \frac{10}{(s+2)(s^2 + 6s + 10)}$

**Hint:** The answer has a non-integer between 7 and 7.5