

**MATH 2850: TEST 12 (25 points.)**

**NAME:** \_\_\_\_\_

**DUE:** Wednesday, April 17th, at the beginning of class.

**DIRECTIONS:** Show all work.

1. Find the following:

(a)  $\mathcal{L}^{-1} \left\{ \frac{1}{s^4} \right\}$

(b)  $\mathcal{L}^{-1} \left\{ \frac{1}{s^2 + 16} \right\}$

(c)  $\mathcal{L}^{-1} \left\{ \frac{s}{s^2 - 16} \right\}$

(d)  $\mathcal{L}^{-1} \left\{ \frac{5}{s + 2} \right\}$

(e)  $\mathcal{L}^{-1} \left\{ \frac{5}{(s + 2)^3} \right\}$

2. Find the following:

$$(a) \mathcal{L}^{-1} \left\{ \frac{1}{s^2 + 5s} \right\}$$

$$(b) \mathcal{L}^{-1} \left\{ \frac{1}{s^2 - 4s + 5} \right\}$$

$$(c) \mathcal{L}^{-1} \left\{ \frac{s}{s^2 + 8s + 25} \right\}$$