Professor: Fred Khoury

Write the partial fraction decomposition of each rational expression

1. 
$$\frac{2s-1}{(s+1)(s-2)}$$

2. 
$$\frac{2s-2}{(s-4)(s+2)}$$

3. 
$$\frac{7s^2 + 3s + 16}{(s+1)\left(s^2 + 4\right)}$$

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

5. 
$$\frac{s}{(s+2)^2(s^2+9)}$$

**6.** 
$$\frac{1}{(s+1)^2(s^2-4)}$$

7. 
$$\frac{7s^2 + 20s + 53}{(s-1)\left(s^2 + 2s + 5\right)}$$

8. 
$$\frac{s^2 + 1}{s^3 - 2s^2 - 8s}$$

$$9. \qquad \frac{1}{x^2 + 2x}$$

10. 
$$\frac{2x+1}{x^2-7x+12}$$