Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Rationalize the denominator

$$\frac{\sqrt{3}}{\sqrt{2}} =$$

$$\frac{\sqrt{5}}{2\sqrt{3} - \sqrt{5}} =$$

2. Solve the radical equation

$$\sqrt{2x - 1} - \sqrt{x} = 1.$$

3. If a guy wire of length 40ft is attached to an antenna at a height of 30ft, then how far from the base of the antenna is the wire attached to the ground?

30 ft

40 ft