Supplemental Problems for System of Equations

1) Sony produces three types of televisions. The Plasma TVs requires 2 hours of soldering, 2 hours of assembly, and 1 hour of testing time. The LCD TVs requires 1 hour of soldering, 3 hours of assembly, and 1 hour of testing time. The Projection TVs requires 3 hours of soldering, 2 hours of assembly, and 2 hours of testing time. In the factory, there are 100 hours of soldering time, 100 hours of assembly time, and 65 hours of testing time available per shift. How many of each model should be produced to effectively utilize all of the allocated time?

2) A student purchased textbooks, paperbacks, and notebooks at the bookstore. Textbooks weigh 2 lb. each and cost $120.00. Paperbacks weigh 1 lb and cost $17.50 each. Notebooks weigh ½ lb and cost $7.50 each. The number of notebooks is the same as the number of textbooks and paperbacks combined. The purchase weighed 19 lbs and cost $660.00. How many textbooks, notebooks, and paperbacks did she buy?

3) Ed Smith, who was building a shed for his lawn mower, went to the lumber yard and bought one pound each of the three kinds of nails: small, medium and large. After doing part of the work, Ed found that he had underestimated the number of small and large nails he needed. So he went back to the lumber yard and bought another pound of the small and 2 pounds of the large nails. Later in the week, he again started running out of small and medium nails. He went to the same lumber yard and bought another pound each of the small and medium nails. Upon looking over his bills he noted that on the first trip for nails he spent $10.50. The second trip he spent $11.50 and the last trip was $6.00. What is the price per pound for each size of nail?