Name: **Math 4 Homework 12**

Part 1: Review. For 1-6, solve for the variable in the equation.

1. $\frac{s-4}{11} = \frac{2}{5}$

2. $\frac{2k}{7} = \frac{3}{8}$

3. $\frac{7x+4}{3} = \frac{9}{2}$

4. $\frac{9y-3}{6} = \frac{5}{2}$

5. $\frac{r}{3} + \frac{r}{2} = 7$

6. $\frac{p}{16} - \frac{2p}{3} = \frac{1}{9}$

Part 2: Practice. For each problem below: define variables, write an equation, and solve.

7. An engineer is building a suspended platform to raise bags of cement. The platform has a mass of 200 kg, and each bag of cement is 40 kg. He is using two steel cables, each capable of holding 250 kg. Write an equation for the number of bags he can put on the platform at once, and solve it.

8. A scientist is testing a number of identical components of unknown resistance which he labels $x\Omega$. He connects a circuit with resistance $(3x + 4)\Omega$ to a steady 12 volt supply and finds that this produces a current of 1.2 amps. What is the value of the unknown resistance?

9. Lydia inherited a sum of money. She split it into five equal parts. She invested three parts of the money in a high-interest bank account which added 10% to the value. She placed the rest of her inheritance plus $500 in the stock market but lost 20% on that money. If the two accounts end up with exactly the same amount of money in them, how much did she inherit?

10. Pang drove to his mother's house to drop off her new TV. He drove at 50 miles per hour there and back, and spent 10 minutes dropping off the TV. The entire journey took him 94 minutes. How far away does his mother live?