1. Consider the following sample grade 3 ISAT problem: "Half of M is 20. What is M?"

   (a) Solve the problem.

   (b) Identify one mistake that you suspect will be common among grade 3 students attempting to solve this problem.

   (c) From what fundamental misconception does this mistake arise?

   (d) What situation or activity would challenge this misconception? Do not use the problem itself directly.

2. Consider the following sample grade 3 ISAT problem: "Twelve children went to the beach. Some went swimming and some played in the sand. There were twice as many children playing in the sand as swimming. How many children were doing each activity?"

   (a) Solve the problem.

   (b) Identify one mistake that you suspect will be common among grade 3 students attempting to solve this problem.

   (c) From what fundamental misconception does this mistake arise?

   (d) What situation or activity would challenge this misconception? Do not use the problem itself directly.

3. If two squares balance one triangle, and two triangles balance a reference weight of 8, how much does a square weigh? Explain.