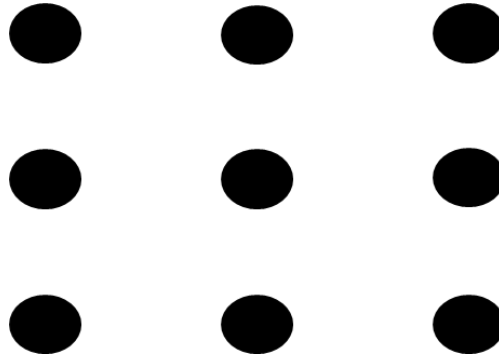# Problem Solving Tasks for Session 1
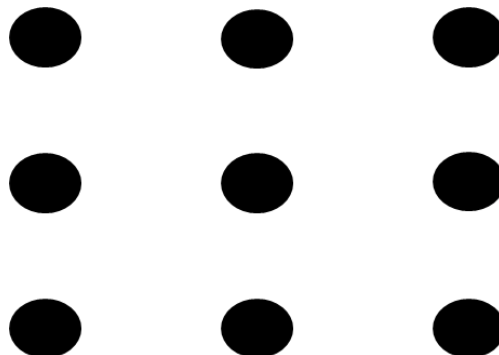
Opening Task:

Connect these nine dots with only four straight lines without lifting your pencil from the paper.

Extension:

Divide these dots using three squares so that each dot is in its own section (the lines of the squares do not go through / touch the dots)
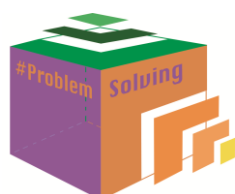

Problem 1

John has 18 ten-cent coins in his wallet and Owen has 22 five-cent coins in his wallet.

Each day, they decide to take one coin from their wallets and put it into a money box, until one of them has no more coins left in their wallet.

When does Owen have more money than John in his wallet?

Problem 2

What's the missing number?

				9
				5
				14
				8
9	8	8	?	

Theory and Practice

Two friends, John and Angela, meet after having not seen each other in many years. They have the following conversation……

John: Are you married? Do you have any children? How many? How old are they?

Angela: Yes, I am married? I have three children and the product of their ages is 36.

John: (After doing some thinking). I cannot figure out their ages. I don't have enough clues.

Angela: Right! What if I told you that the sum of their ages is the number of your address?

John: (After doing some thinking again). I still can't figure out their ages, but I should be able to if I have I get one more hint.

Angela: I can also tell you that the oldest has blond hair.

John: Aha! Now, I know the ages of your three children.

What are the ages of the children (ages can only be natural numbers)?