**Problem 1A**

4 pegs \* 6 colors each = 24 possible combinations

Probability of guessing correctly = 1/24

**Problem 1B**

Given 6 blocks, we know:

3 red, 3 green

6!/(3! \* 3!)

Given 9 blocks, we know:

3 white, 3 red, 3 green

9!/(3! \* 3! \* 3!)

**Problem 2A**

Text, letter

Description automatically generated

A white paper with black writing

Description automatically generated with low confidence

**Problem 2B**

A piece of paper with writing

Description automatically generated with medium confidence

**Problem 2C**

A sheet of music

Description automatically generated with low confidence

**Problem 3**

Determining MGF

Text, letter

Description automatically generated

Mean

A picture containing text, document

Description automatically generated

Variance

Text, letter

Description automatically generated

Third Moment

A picture containing text

Description automatically generated

**Problem 4**

Text, letter

Description automatically generated

**Problem 5A**

Text, letter

Description automatically generated

**Problem 5B**

Text, letter

Description automatically generated

**Problem 5C**

A picture containing text, document

Description automatically generated

**Problem 5D**

A picture containing text, document

Description automatically generated

**Problem 6**

Text, letter

Description automatically generated

**Problem 7A**

A piece of paper with writing on it

Description automatically generated with medium confidence

**Problem 7B**

Calendar

Description automatically generated with medium confidence