Worksheet 16: Advanced Codebreaker and Logic Challenge

Use ciphers, patterns, and justification.

Part A: Decode and Find Rules

1. Using A=1, B=2, decode 18-5-19-3-21-5 / 16-12-1-14.

2. A Caesar shift moves each letter 3 forward to encode. Decode WUDLQLQJ.

Show your work / final answer:

3. A code reverses the alphabet so A=Z, B=Y, C=X. Decode HZUVGB.

Show your work / final answer:

4. Find the next two terms and explain the rule: 3, 8, 18, 38, 78, __, __.

Show your work / final answer:

5. A pattern alternates operations: +4, x2, +4, x2. Starting at 5, list the next five numbers.

Show your work / final answer:

Extra workspace / final response:

Part B: Design a Code

6. Create your own cipher rule. Encode a 6-letter word, then explain how someone could decode it.

7. Why is a pattern rule not proven by only one example? Explain using one of the patterns above.

Extra workspace / final response: