

Problem EX-2 (5 parts)**MIPS Assembly Expressions**

Part A: Write a MIPS program fragment that computes “ $-17 \cdot (B - C)$ ” and puts the result in register \$6. Assume B and C are in registers \$1 and \$2, respectively. Use a minimum number of instructions and registers. You may reuse registers \$1 and \$2.

Part B: Suppose A is stored in memory location 1020 and B is stored in memory location 1024. Write a MIPS program fragment that computes “ $256 \cdot (A + B/16)$ ” and stores the result at memory location 1028. Use a minimum number of instructions and registers.

Part C: Write a MIPS program fragment to put the value 0xABCD1234 into register \$1.

Part D: Suppose an image processing system stores a 512x256 pixel image in memory. Each pixel is represented by 8 bits and they are store contiguously in memory. How much memory (in kilobytes) does this require? How many bits are needed to address 1 pixel?

Part E: Write a MIPS fragment that exchanges two registers (\$1 and \$2) without using any other registers or memory. (hint: think xor).