Practice Problem 2.4 (solution page 180)

Without converting the numbers to decimal or binary, try to solve the following arithmetic problems, giving the answers in hexadecimal. *Hint:* Just modify the methods you use for performing decimal addition and subtraction to use base 16.

A. **0x605c** + **0x5** = 0x6061
B. **0x605c** − **0x20** = 0x603C
C. **0x605c** + 32 = 0x607C
D. **0x60fa** − **0x605c** = 0x9E

Hex digit	0	1	2	3	4	5	6	7
Decimal value	0	1	2	3	4	5	6	7
Binary value	0000	0001	0010	0011	0100	0101	0110	0111
Hex digit	8	9	A	B	C	D	E	F
Decimal value	8	9	10	11	12	13	14	15
Binary value	1000	1001	1010	1011	1100	1101	1110	1111

Figure 2.2 **Hexadecimal notation.** Each hex digit encodes one of 16 values.

A. 0x605C + 0x5 = 0x6061

C + 5 = 12 + 5 = 17 = 16 + 1

B. 0x605C − 0x20 = 0x603C

C. 0x605C + 0x20 = 0x607C

$32 = (16)^2 = 0x20$

D. 0x60FA − 0x605C = 0x9E

(16 + A) − C = 26 − 12 = 14

(F − 1) − 5 = 14 − 5 = 9