A)

	#STALLS	INSTR^N	OPERANDS	BEGINS EX
	-	DADDIU	R4, R1, #800	3
Again:	-	L.D	F2, 0(R1)	4
	2	MULT.D	F4, F2, F0	7
	-	L.D	F6, 0(R2)	8
	5	ADD.D	F6, F4, F6	14
	4	S.D	0(R2), F6	19
	-	DADDIU	R1, R1, #8	20
	-	DADDIU	R2, R2, #8	21
	1	SLTIU	R3, R1, done	23
	2	BEQZ	R3, Again	24
	1	*next loop starts*		

Cycles / iteration = 24

B)

	#STALLS	INSTR^N	OPERANDS
	-	DADDIU	R4, R1, #800
Again:	-	L.D	F2, 0(R1)
	-	L.D	F6, 0(R2)
	-	DADDIU	R1, R1, #8
	-	MULT.D	F4, F2, F0
	-	DADDIU	R2, R2, #8
	-	SLTIU	R3, R1, done
	4	ADD.D	F6, F4, F6
	-	BEQZ	R3, Again
	3	S.D	-8(R2), F6
	-	*next iteration begins*	

Cycles / iteration = 16

C)

	#STALLS	INSTR^N	OPERANDS
	-	DADDIU	R4, R1, #800
Again:	-	L.D	F2, 0(R1)
	-	L.D	F8, 8(R1)
	-	L.D	F14, 16(R1)
	-	MULT.D	F4, F2, F0
	-	L.D	F20, 24(R1)
	-	MULT.D	F10, F8, F0
	-	MULT.D	F16, F14, F0
	-	MULT.D	F22, F20, F0
	-	L.D	F6, 0(R2)
	-	L.D	F12, 8(R2)
	-	L.D	F18, 16(R2)
	-	L.D	F24, 24(R2)
	-	ADD.D	F6, F4, F6
	-	ADD.D	F12, F10, F12
	-	ADD.D	F18, F16, F18
	-	ADD.D	F24, F22, F24
	-	DADDIU	R1, R1, #32
	-	S.D	0(R2), F6
	-	S.D	8(R2), F12
	-	SLTIU	R3, R1, done
	-	S.D	16(R2), F18
	-	S.D	24(R2), F24
	-	BEQZ	R3, Again
	-	DADDIU	R2, R2, #32
	-	*next iteration*	

$$Cycles/iteration = \lceil \frac{24}{4} \rceil = 6$$

D)

INSTR^N	OPERANDS	ISSUE	READ OPERANDS	EXECUTION COMPLETE	WRITE RESULT
DADDIU	R4, R1, #800	1	2	3	4
L.D	F2, 0(R1)	5	6	9	10
MULT.D	F4, F2, F0	6	11	18	19
L.D	F6, 0(R2)	11	12	15	16
ADD.D	F6, F4, F6	17	20	25	26
S.D	0(R2), F6	18	27	30	31
DADDIU	R1, R1, #8	32	33	34	35
DADDIU	R2, R2, #8	36	37	38	39
SLTIU	R3, R1, done	40	41	42	
BEQZ	R3, Again				