Data transfer	Arithmetic	Compare	Transcendental
F{I}LD mem/ST(i)	F{I}ADD{P}mem/ST(i)	F{I}COM{P}{P}	FPATAN
F{I}ST{P} mem/ST(i)	F{I}SUB{R}{P}mem/ST(i)	F{I}UCOM{P}{P}	F2XM1
FLDPI	F{I}MUL{P}mem/ST(i)	FSTSW AX/mem	FCOS
FLD1	F{I}DIV{R}{P}mem/ST(i)		FPTAN
FLDZ	FSQRT		FPREM
	FABS		FSIN
	FRNDINT		FYL2X

FIGURE E.35 The floating-point instructions of the 80x86. The first column shows the data transfer instructions, which move data to memory or to one of the registers below the top of the stack. The last three operations push constants on the stack: pi, 1.0, and 0.0. The second column contains the arithmetic operations described above. Note that the last three operate only on the top of stack. The third column is the compare instructions. Since there are no special floating-point branch instructions, the result of the compare must be transferred to the integer CPU via the FSTSW instruction, either into the AX register or into memory, followed by an SAHF instruction to set the condition codes. The floating-point comparison can then be tested using integer branch instructions. The final column gives the higher-level floating-point operations.