

Sample equation by Chinmoy Sir

$$\frac{3X^2 + 2X - 5}{2X^2 - 1}$$

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MOV AX, 0Eh
MOV BX, 0EH

MUL BX           ; AX = X^2
MOV [2008], AX

MOV BX, 3
MUL BX           ; AX = 3X^2
MOV [2002], AX

MOV AX, 0Eh
MOV BX, 2
MUL BX
MOV BX, AX
ADD BX, [2002]
SUB BX, 5        ; BX = 3X^2+2X-5

MOV AX, [2008]
MOV DX, 2
MUL DX           ; AX = 2X^2
SUB AX, 1
MOV DX, AX       ; DX = 2X^2-1
MOV AX, BX       ; AX = 3X^2+2X-5

MOV BX, DX
XOR DX, DX
DIV BX

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Instruction	Machine Code	Keypad Sequence
MOV AX, 0Eh	B8 0E 00	DA → B → 8 → + → 0 → E → + → C → C → STP → GO
MOV BX, 0Eh	BB 0E 00	DA → B → B → + → 0 → E → + → C → C → STP → GO
MUL BX	F7 E3	DA → F → 7 → + → E → 3 → + → C → C → STP → GO
MOV [2008], AX	A3 08 20	DA → A → 3 → + → 0 → 8 → 2 → 0 → + → C → C → STP → GO
MOV BX, 3	BB 03 00	DA → B → B → + → 0 → 3 → + → C → C → STP → GO
MUL BX	F7 E3	DA → F → 7 → + → E → 3 → + → C → C → STP → GO
MOV [2002], AX	A3 02 20	DA → A → 3 → + → 0 → 2 → 2 → 0 → + → C → C → STP → GO
MOV AX, 0Eh	B8 0E 00	DA → B → 8 → + → 0 → E → + → C → C → STP → GO
MOV BX, 2	BB 02 00	DA → B → B → + → 0 → 2 → + → C → C → STP → GO
MUL BX	F7 E3	DA → F → 7 → + → E → 3 → + → C → C → STP → GO

MOV BX, AX	8B D8	DA → 8 → B → + → D → 8 → + → C → C → STP → GO
ADD BX, [2002]	03 1E 02 20	DA → 0 → 3 → + → 1 → E → 0 → 2 → 2 → 0 → + → C → C → STP → GO
SUB BX, 5	83 EB 05	DA → 8 → 3 → + → E → B → 0 → 5 → + → C → C → STP → GO
MOV AX, [2008]	A1 08 20	DA → A → 1 → + → 0 → 8 → 2 → 0 → + → C → C → STP → GO
MOV DX, 2	BA 02 00	DA → B → A → + → 0 → 2 → + → C → C → STP → GO
MUL DX	F7 E2	DA → F → 7 → + → E → 2 → + → C → C → STP → GO
SUB AX, 1	2D 01 00	DA → 2 → D → + → 0 → 1 → + → C → C → STP → GO
MOV DX, AX	8B D0	DA → 8 → B → + → D → 0 → + → C → C → STP → GO
MOV AX, BX	8B C3	DA → 8 → B → + → C → 3 → + → C → C → STP → GO
MOV BX, DX	8B DA	DA → 8 → B → + → D → A → + → C → C → STP → GO
XOR DX, DX	31 D2	DA → 3 → 1 → + → D → 2 → + → C → C → STP → GO
DIV BX	F7 F3	DA → F → 7 → + → F → 3 → + → C → C → STP → GO