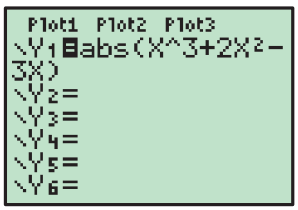
CHAPTER 19 - DEFINITE INTEGRALS USING MODULUS

TI-84 Plus

To find $\int_{-3}^{1} \left|x^3 + 2x^2 - 3x\right| \, dx$, press [Y=] , then press [MATH] [▶] **1:abs(** .
Enter the expression $x^3 + 2x^2 - 3x$, then press [)] [GRAPH] to draw the graph.



Press [2nd] [TRACE] (**CALC**) **7:**$\int \boldsymbol{f(x)}\, \boldsymbol{dx}$. Press -3 [ENTER] 1 [ENTER] to specify the lower and upper limits of the integral.

So, $\int_{-3}^{1} \left|x^3 + 2x^2 - 3x\right| \, dx = 11\frac{5}{6}$.