AP Calc DS

Noteworthy Problems from the Review Packet

661
666
667
668
675
833*

824
825
826

1102
1108*
1118

*
about to do these together

833. Find the sum of the values of a and b such that $F(x) = 2ax^2 + bx + 3$ has a relative extremum at $(1, 2)$.

A) $\frac{3}{2}$ B) $\frac{5}{2}$ C) 1 D) -1 E) None of these

$F' = 4ax + b = 0$

$x = 1$

$4a + b = 0$

$-\ (2a + b = -1)$

$2a = 1$

$a = 1/2$

$(1, 2)$

$2 = 2a + b + 3$

$2a + b = -1$

$4(1/2) + b = 0$

$2 + b = 0$

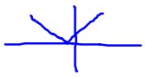
$b = -2$

$+$

$\frac{1}{2} - \frac{4}{2} = -3/2$

E

1108. $\int_{-2}^{3} |x+1|\, dx =$



A) $\frac{5}{2}$ B) $\frac{17}{2}$ C) $\frac{9}{2}$ D) $\frac{11}{2}$ E) $\frac{13}{2}$

* Abs val. $\Longleftrightarrow$ piecewise

where it's pos:

$x+1 \geq 0$

$x \geq -1$

$$\begin{cases} x+1, & x \geq -1 \\ -(x+1) & x < -1 \end{cases}$$

$-x-1$

$$\underbrace{\int_{-2}^{-1} -x-1\, dx}_{} + \underbrace{\int_{-1}^{3} x+1\, dx}_{}$$

Don't forget: $\ln(a \cdot b) = \ln a + \ln b$

Packet Due Apr 8

Don't wait to get started!!!!!!

Have a great spring break!!!!