IB Math HL2 Name: _____

Integration Part 1 – Review

Derivatives and Integration

1.) Given $f(x)=(4x+7)^5$ find $f'(x)$.

2.) $\int (4x+7)^5 \cdot dx$

Areas

3.) Find the area enclosed by the graphs of $y=x^2$, $y=8-2x$, and the *x*-axis in quadrant 1.

4.) Find the area enclosed by the graphs of $y=x^2$, $y=8-2x$, and the *y*-axis in quadrant 1.

5.) The area between the curve $y = ax^2$ and the *x*-axis between -2 and 2 is 20. Find the value of a .

6.) Find the area enclosed by the graph of $y = \frac{1}{x+1}$, the *y*-axis, and the line $y = 5$.

7.) The diagram below shows the graph of $y = x^2 - 3x + 2$. Find the area of the shaded region.