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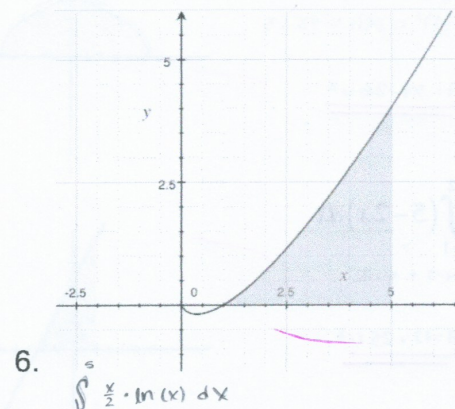
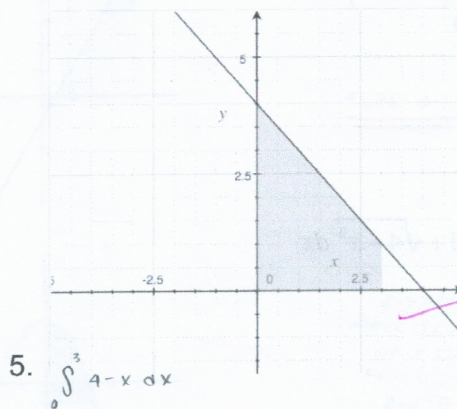
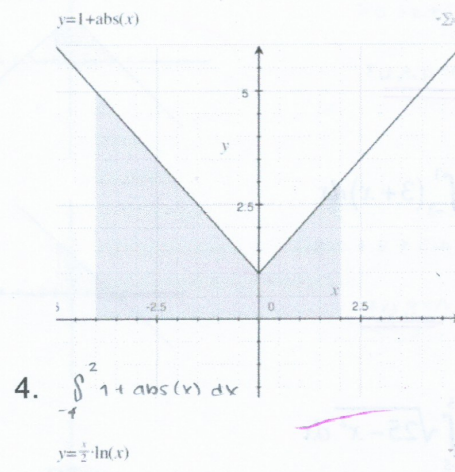
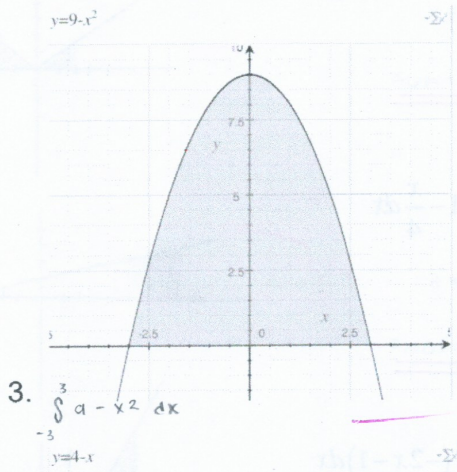
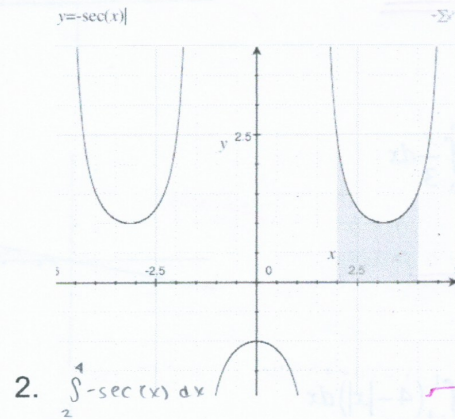
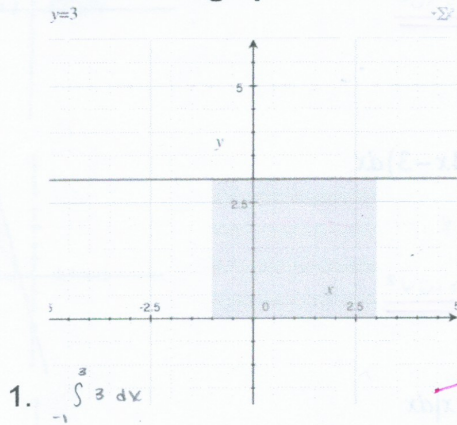
Activity 3.4: Using Geometric Areas to Evaluate Definite Integrals

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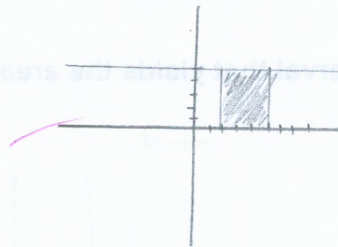
For each of the following graphs give the interval that yields the area of the region shown on the graph



Give the graph (remember to shade the corresponding area) whose area is given by each of the following definite integrals. Then use a geometric formula to evaluate the integral (by finding the area)

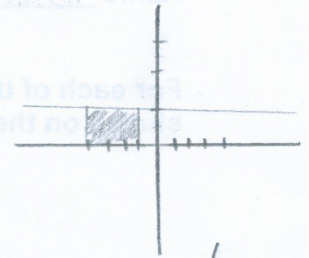
1. $\int_2^5 5 dx$

$A = 15 U^2$



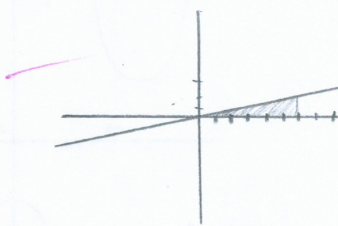
7. $\int_{-4}^{-1} 1 dx$

$A = 3 U^2$



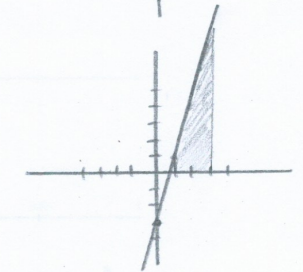
2. $\int_0^6 \frac{x}{3} dx$

$A = 6 U^2$



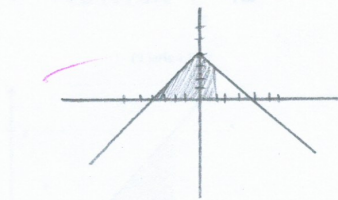
8. $\int_1^3 (4x-3) dx$

$A = 10 U^2$



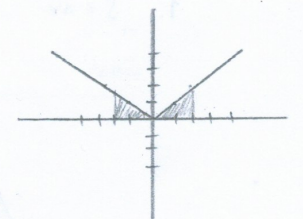
3. $\int_{-4}^1 (4-|x|) dx$
8+3+0.5

$A = 11.5 U^2$



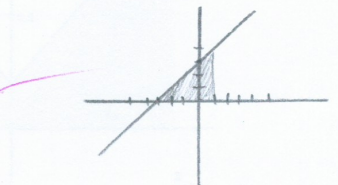
9. $\int_{-2}^2 |x| dx$
2+2

$A = 4 U^2$



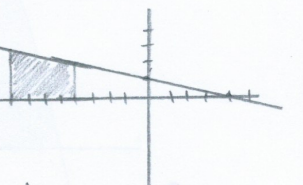
4. $\int_{-3}^1 (3+x) dx$
4.5+3+0.5

$A = 8 U^2$



10. $\int_{-8}^{-4} 1 - \frac{x}{4} dx$
2+8

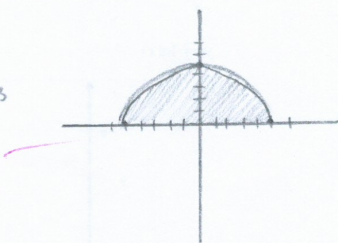
$A = 10 U^2$



5. $\int_{-5}^5 \sqrt{25-x^2} dx$

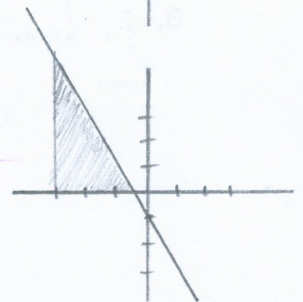
$\pi(5)^2 = 25\pi = 78.53$

$A = 39.26 U^2$



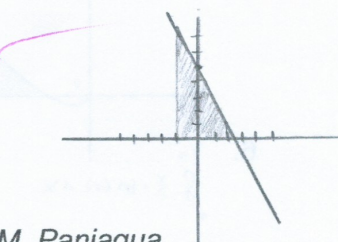
11. $\int_{-0.5}^{-3} (-2x-1) dx$

$A = 6.25 U^2$



6. $\int_{-1}^2 (5-2x) dx$
5+1+6.25

$A = 12.25 U^2$



12. $\int_{-2}^0 1 + \sqrt{4-x^2} dx$

(0.5) f (0) = 1.5
(0.5) f (0.5) = 1.46
(0.5) f (1) = 1.36
(0.5) f (1.5) = 1.37
(0.5) f (-2) = 0.5

$A = 5.69 U^2$

