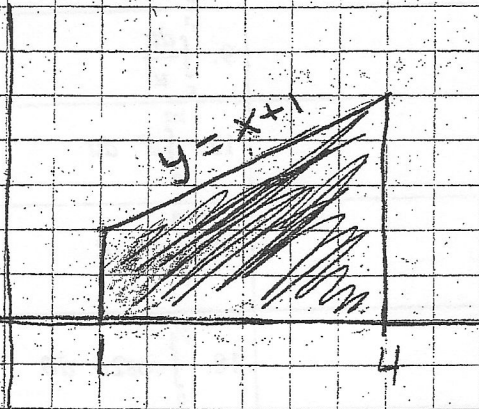


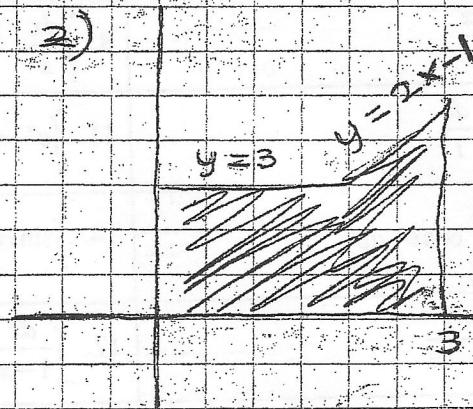
Area Problem WS

Directions: Find the area of the shaded region

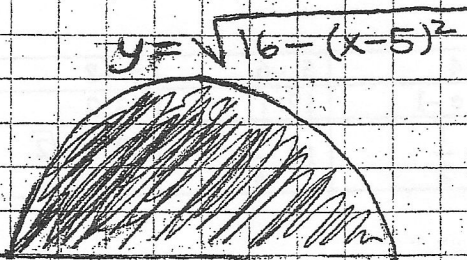
1)



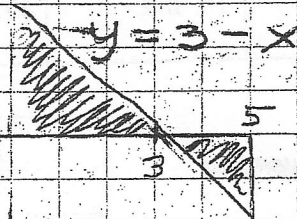
2)



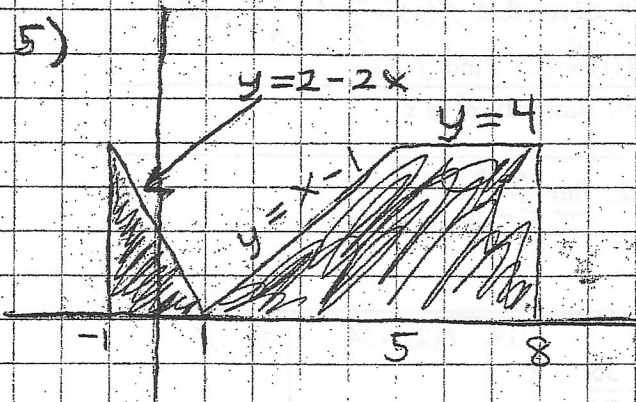
3)



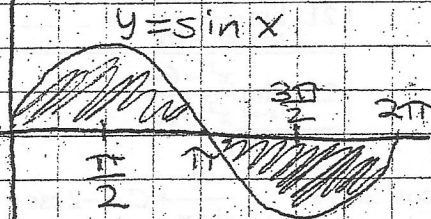
4)



5)



6)



1. $\int_0^3 (2x-1) dx$	2. $\int_0^2 (4-x) dx$	3. $\int_1^2 (4t-5) dt$
4. $\int_1^3 (2x+3) dx$	5. $\int_{-3}^0 (x^2+2x-2) dx$	6. $\int_{-2}^2 (s^3-3s^2+2) ds$
7. $\int_1^2 \frac{dx}{x}$	8. $\int_1^e \frac{dx}{x}$	9. $\int_e^{e^2} \frac{du}{u}$
10. $\int_{\frac{1}{e}}^e \frac{dt}{t}$	11. $\int_0^1 e^x dx$	12. $\int_0^{\ln 2} e^u du$
13. $\int_{-\pi/2}^{\pi/2} \cos \theta d\theta$	14. $\int_0^{\pi} \sin \alpha d\alpha$	15. $\int_0^{\ln 2} e^{-t} dt$
16. $\int_0^2 \frac{dx}{4-x}$	17. $\int_{-2}^0 \frac{dx}{1-x}$	18. $\int_0^{\pi/4} \cos 2\theta d\theta$
19. $\int_0^{\pi/6} \sin 2\theta d\theta$	20. $\int_0^{\pi/4} \tan t dt$	21. $\int_0^{\pi/2} \frac{\cos \theta}{1+\sin \theta} d\theta$

Answers:

1. 6	2. 6	3. 1	4. 14	5. -6	6. -8	7. ln 2
8. 1	9. 1	10. 2	11. e-1	12. 1	13. 2	14. 2
15. $\frac{1}{2}$	16. ln 2	17. ln 3	18. $\frac{1}{2}$	19. $\frac{1}{4}$	20. $\ln \sqrt{2}$	21. ln 2

Problems:

17. Find the antiderivative of $\frac{2 \cos x}{\sin^2 x}$. (means "integrate")	18. Given that $f'(x) = \frac{1}{2}x^2 + \frac{3}{4}x$ and $f(1) = 2$. Find $f(x)$
19. If $f(x) = 5x^4 - 2x$ and if $f(1) = 6$, then $f(2) = ?$	20. Simplify $e^2 \ln x^3$
21. $\lim_{x \rightarrow 4} \frac{x^2 - 4}{x^2 - 16}$	22. $\lim_{x \rightarrow 6} \frac{x - 6}{x^2 - 36}$
23. $\lim_{x \rightarrow 4} \frac{x^3 - 64}{x^2 - 16}$	

16. $-\frac{1}{8} \cos^4 2u + c$	17. $\frac{-2}{\sin x} + C = -2 \csc x + c$	18. $\frac{x^3}{6} + \frac{3}{8}x^2 + \frac{35}{24}$	19. $f(2) = 34$	20. x^6
21. does not exist	22. $\frac{1}{12}$	23. 6		