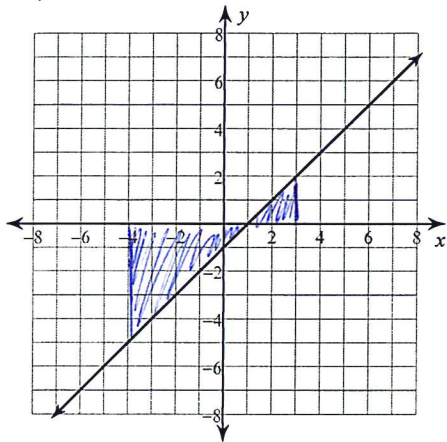


## 9.3-9.4 Quiz - NON CALC Practice

Date \_\_\_\_\_ Period \_\_\_\_\_

Using geometry and areas, evaluate the integral. 2 pts each

1)  $\int_{-4}^3 g(x) dx$



Area below

$$\frac{1}{2}(5)(5) = \frac{25}{2} \text{ (negative)}$$

Area above

$$\frac{1}{2}(2)(2) = 2$$

$$-\frac{25}{2} + 2 = \boxed{-10.5}$$

Using properties of integrals, evaluate the following given  $\int_{-2}^5 f(x) dx = 6$ ,  $\int_1^5 f(x) dx = -3$ ,

$\int_{-2}^5 g(x) dx = 4$ , and  $\int_5^9 g(x) dx = -10$ . Show work whenever possible. (2 pts each)

$$2) \text{ Find } \int_5^1 f(x) dx = -\int_1^5 f(x) dx = -(-3) = \boxed{3}$$

Evaluate each definite integral using the Fundamental Theorem of Calculus.

Give exact answers and you must do the integrals by hand. Show work! (5 pts each)

$$3) \int_{-2}^2 (x^5 - 3x^3 + 2x + 4) dx$$

$$\left[ \frac{1}{6}x^6 - \frac{3}{4}x^4 + x^2 + 4x \right]_{-2}^2$$

$$\left[ \frac{1}{6}(2)^6 - \frac{3}{4}(2)^4 + 2^2 + 4(2) \right] - \left[ \frac{1}{6}(-2)^6 - \frac{3}{4}(-2)^4 + (-2)^2 + 4(-2) \right]$$

$$\frac{32}{3} - \left(-\frac{16}{3}\right)$$

$$\frac{32}{3} + \frac{16}{3} = \frac{48}{3} = \boxed{16}$$

\* you won't have one this yucky!

## 9.3-9.4 Quiz CALCULATOR Practice

Date \_\_\_\_\_

Period \_\_\_\_\_

Using the FTC and your GDC, evaluate each definite integral to 3 decimal places. (1pt each)

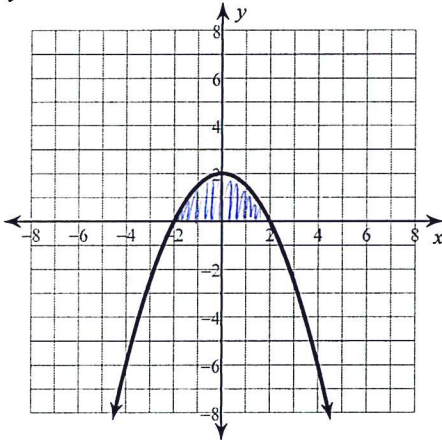
$$1) \int_0^3 \frac{1}{9+x^2} dx$$

Go to Math + fn Int (#9)  
Be sure to put  $1/(9+x^2)$

Answer  $\approx 0.262$

Shade the area bound by each function below and the x-axis. Then set up an integral and use your GDC to evaluate. Use what you know about areas to verify that your answer makes sense. (3 pts each)

$$2) y = -0.5x^2 + 2 \text{ from } -2 \text{ to } 2.$$



$$\int_{-2}^2 (-0.5x^2 + 2) dx = 5\frac{1}{3}$$