

Name \_\_\_\_\_

**No calculators allowed!**

1. (2 points) Find the exact value of  $\arcsin\left(-\frac{1}{2}\right)$ .

2. (2 points) Express  $\theta$  in terms of  $x$  using the inverse trigonometric function  $\tan^{-1}$ .

**Note: Everyone gets 2 points since I left off the necessary right triangle**

3. (3 points) Given that  $y = \sin^{-1}(10x^2)$ , find  $\frac{dy}{dx}$ .

4. (3 points) Evaluate the integral  $\int \frac{6}{1+9x^2} dx$ .