Name _____

[06-09-20-T11-E]

$f(x) = ax^2$

■ **A. Discuss the function *f* defined by $f(x) = \frac{1}{2}x^2$. Give complete answers using correct notation.**

■ **1. Domain**

■ **2. Range**

■ **3. Zeros**

■ **4. Asymptotes: There are none**

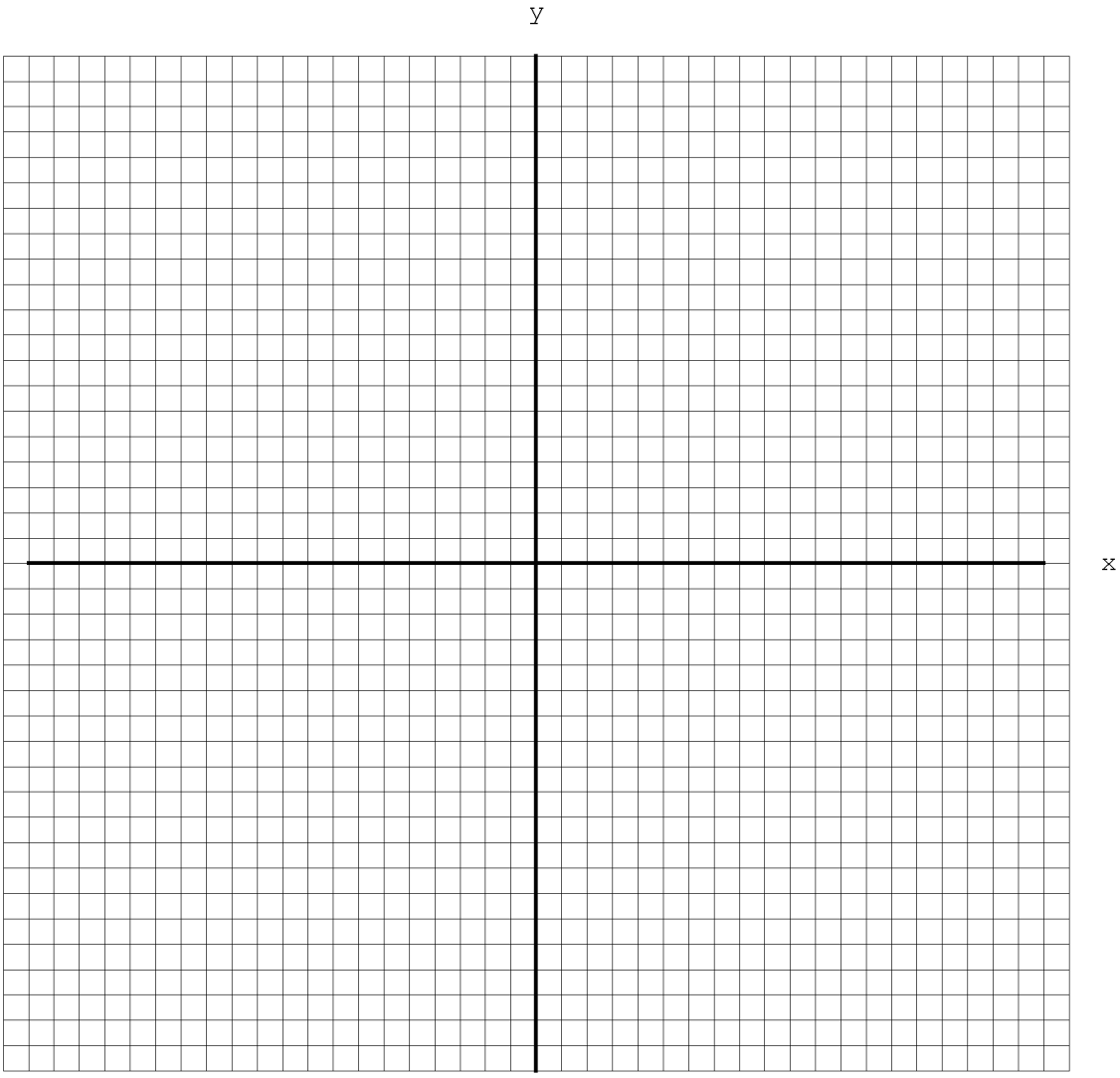
■ **5. Extreme values (maximum, minimum).**

■ **6. Monotonicity (increasing, decreasing)**

■ **7. Symmetry (state the line of symmetry, if it exists)**

■ **8. Rate of change (constant or variable? Support your answer)**

■ Graph the function



■ **B. Discuss the function f defined by $f(x) = -\frac{1}{2}x^2$. Give complete answers using correct notation.**

■ **1. Domain**

■ **2. Range**

■ **3. Zeros**

■ **4. Asymptotes: There are none**

■ **5. Extreme values (maximum, minimum)**

■ **6. Monotonicity (increasing, decreasing)**

■ **7. Symmetry (state the line of symmetry, if it exists)**

■ **8. Rate of change (constant or variable? Support your answer)**

■ Graph the function