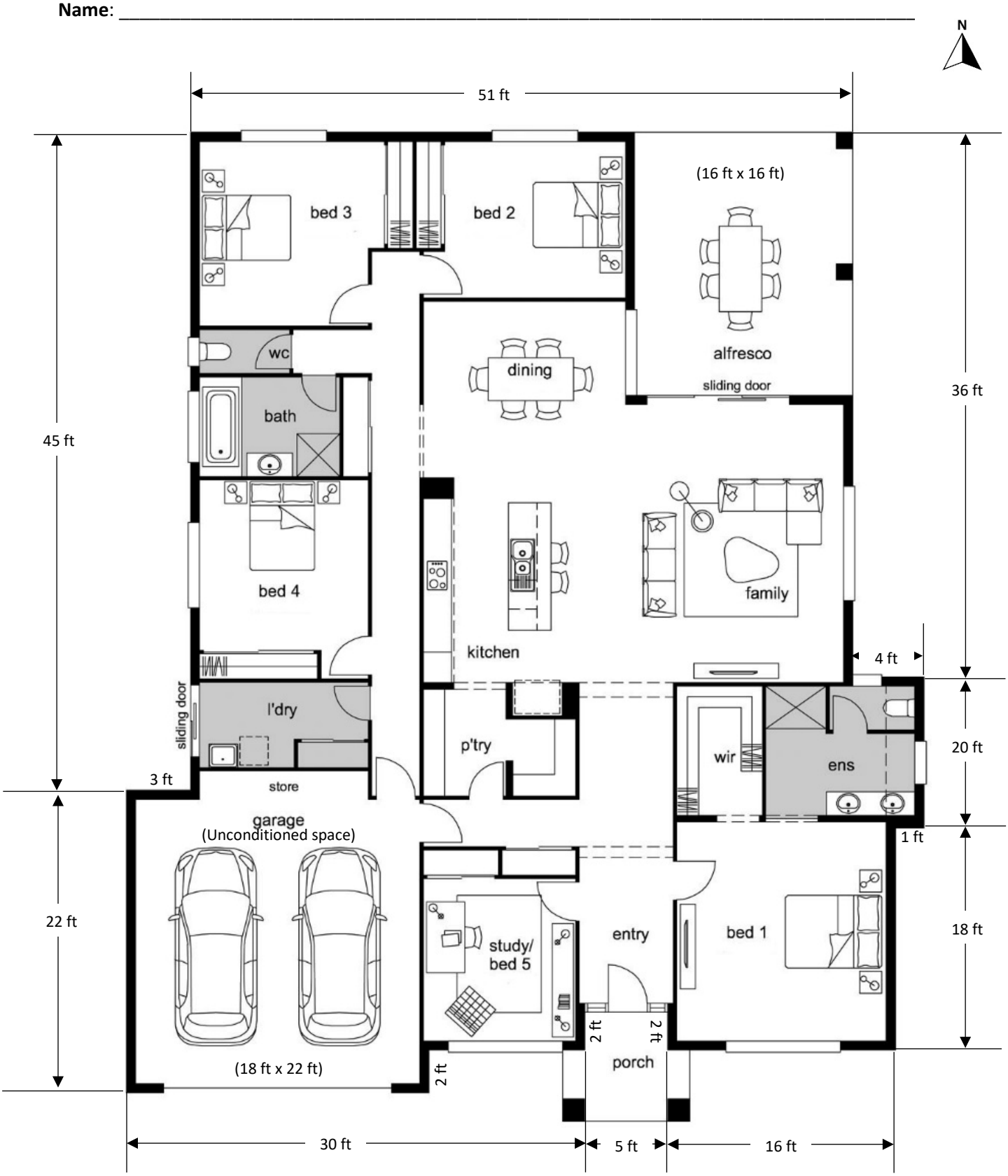
Homework #5 Due: 9/8

Show all work for full credit.

20 pts total

Name: _____



Window Specifications

All windows are Double Glass

Dining	5 ft x 4 ft
Family	8 ft x 5 ft
Bed 1	5 ft x 4 ft
Bed 2, Bed 3, and Bed 4	5 ft x 3 ft
Study/bed 5	5 ft x 4 ft
Bath	4 ft x 3 ft and 2 ft x 3 ft
Ens	3 ft x 3 ft and 2 ft x 3 ft

Building Construction

Floor	SOG (edge insulation)
Walls	R-19 (6" Insulation)
Ceilings	R-30 (10" insulation)
Wood Frame Walls	
Attic Space	
Average Ceiling Height	10 ft
Porch	7 ft x 7 ft
Furnace	90% Efficiency Loss

Door Specifications

Entry Door	7 ft x 3 ft (wood no storm door)
Garage Doors	7 ft x 3 ft (Wood no storm door)

Double Glass Patio Doors:

Sliding door	6 ft x 8 ft
Sliding door (l'dry)	4 ft x 8 ft

Note: Garage Area is unconditioned space

SHOW ALL WORK FOR FULL CREDIT.

Part 1: Cooling Load (Heat gain)

1. For the five-bedroom, two-bathroom house shown, write the square footage of each window along the outside of the window and the square footage of the entry door, garage doors, and sliding doors (patio) next to the doors on the floor plan. (See class example)

2. Determine the total wall perimeter:

Wall Side	**Length (ft) [Show calculations]**
North	
South	
East	
West	
Total Wall Perimeter	

Determine the total Glass Area (Includes Sliding Doors):

Side	**Glass Area (ft^2) [Show calculations]**
North	
South	
East	
West	
Total Glass Area	

Determine the total Door Area:

Door	**Door Area (ft^2) [Show calculations]**
Wood No Storm Door	
Total Door Area	

3. Determine the Net Wall Area.

4. Determine the Ceiling Area.

Part 2: Heat Load (Heat Loss)

Item	**Area (ft^2)**
Total sq. ft of Double Glass Windows	
Total sq. ft. of Double Glass Patio (Sliding Doors)	
Total sq. ft. of Wood No Storm Doors	

5. Using the attached Accu-Size Heating & Cooling Home Analysis Form complete the Cooling Load (heat gain) and the Heating Load (heat loss) for the home.