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HOME ENERGY COST-CUTTING COMPUTER ANALYSIS

This computer service is **FREE**. It will provide you with an estimate of heating and cooling losses, and where appropriate, recommendations for reducing these losses. This program will tell you where you are wasting energy in your home and how to make the best investment to cut down this energy waste. For each energy saving action the analysis will estimate the cost and yearly savings and will provide the economic recommendations for that project. The major emphasis will be on the low cost, no cost items. Answers to energy questions can be obtained by calling the Office of Emergency and Energy Services **HOT LINE** in Richmond: 1-800-552-3831.

TO RECEIVE THIS COMPUTER ANALYSIS, PLEASE COMPLETE THE REMAINDER OF THIS FORM

_____
(Name)

_____
(Street Address) (Area Code/Telephone)

_____
(City) (County) (Zip Code)

1. Describe the foundation of your house by filling in the blanks below. For each **YES** answer, complete the length and width columns in feet or give the area of each type.

The house is completely or partially over:	NO	YES	LENGTH	WIDTH	AREA
1. a concrete slab	[ ]	[ ]	_____	_____	_____
2. an open crawl space	[ ]	[ ]	_____	_____	_____
3. a skirted crawl space	[ ]	[ ]	_____	_____	_____
4. a tightly sealed crawl space	[ ]	[ ]	_____	_____	_____
5. an unheated basement	[ ]	[ ]	_____	_____	_____
6. a heated basement	[ ]	[ ]	_____	_____	_____

2. If you have a heated basement, are the walls insulated? [ ] **YES** [ ] **NO**

   If so, how much insulation?_____inches (or_____R value).
   Is the heated basement: (check one box)
   1. [ ] Mostly below ground
   2. [ ] Seventy-five percent (¾) below ground
   3. [ ] Fifty percent (½) below ground

3. How thick is the existing insulation in your home?

   Attic or ceiling_____inches (or_____R value)
   Floor_____inches (or_____R value)
   Walls_____inches (or_____R value)

4. What is your average thermostat setting for winter? daytime_____°F nighttime_____°F
   What percentage of your home do you heat in the winter?_____%

5. Does your house have a cathedral or other type of raised ceiling which would be difficult to insulate?
   [ ] **YES** [ ] **NO**

   If yes, what percentage of the roof is over this raised ceiling?_____(Example: If the living room ceiling is raised, and it is under about one-third of the roof, the answer would be about 33 percent.)

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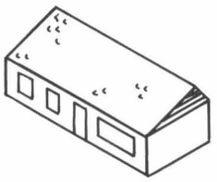
State Office of Emergency and Energy Services—Energy Division—Richmond, Virginia 23225

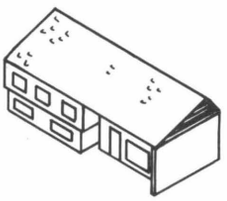
6. What type of house do you live in? *(Check the appropriate box and give the length and width.)*

1. [ ] Ranch (one story)



Outside length equals_____feet.
Outside width equals_____feet.

2. [ ] Split-level

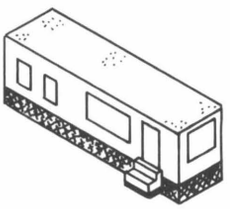


Outside length of one-story section equals_____feet.
Outside width of one-story section equals_____feet.
Outside length of two-story section equals_____feet.
Outside width of two-story section equals_____feet.

3. [ ] Two-story or Split Foyer

Outside length equals_____feet.
Outside width equals_____feet.

4. [ ] Mobile Home

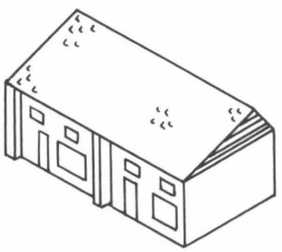


Outside length equals_____feet.
Outside width equals_____feet.

5. [ ] Other (duplexes, townhouses, apartments),

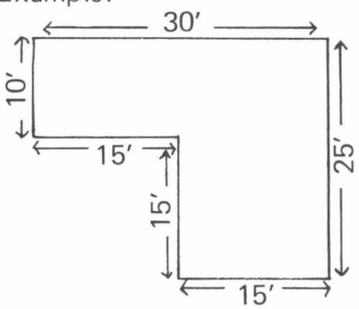
or

house with 3 stories or irregular shape



How many stories are heated?_____
Area of main floor heated space _____square feet (length x width)
Area of outside walls of heated space (including window area) _____square feet.

Please sketch your heated space floor plan. Include length of each wall in feet.
Example:



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7. What is the condition of the caulking and weatherstripping on your doors and windows? *(Check the best one.)*

   1. [ ] Good, window and door frames caulked, sashes well fitting and weatherstripped.
   2. [ ] Average, window and door frames caulked or sashes weatherstripped.
   3. [ ] Poor, no caulking on window and door frames. No weatherstripping, few or no storm doors or windows.

8. What is the condition of the walls? *(Check the best one.)*

   1. [ ] Good, ceiling and floor joints well sealed.
   2. [ ] Average, some cracks in ceiling and floor joints and corners.
   3. [ ] Poor, many cracks in ceiling and floor joints and corners.

9. What is the condition of the electrical outlets? *(Check the best one.)*

   1. [ ] Electrical outlets have rubber gaskets to stop airflow.
   2. [ ] Some gaskets on electrical outlets.
   3. [ ] No gaskets on electrical outlets.

10. What is the condition of the ceilings in heated spaces? *(Check the best one.)*

    1. [ ] Good, no cracks. No holes and openings around ductwork or pipes, which pass through ceiling. No recessed lights. No trap door to unheated attic or trap door to attic, weatherstripped and insulated.
    2. [ ] Average, some cracks. Some holes around ducts, pipes, or wiring which pass through ceiling. Less than three recessed light fixtures. Trap door to unheated attic not weatherstripped.
    3. [ ] Poor, many cracks. Many holes around ducts, pipes, or wiring which passes through the ceiling. More than three recessed lights. Uncovered or loosely covered openings to unheated attic.

11. What is the condition of ductwork and pipes through floors? *(Check the best one.)*

    1. [ ] No ductwork and/or few pipes passing through floor.
    2. [ ] Ductwork in heated finished basement and few pipes through floor.
    3. [ ] Ductwork in unheated space and/or many pipes through floor.

12. Do you frequently use a fireplace or wood stove? [ ] **YES** [ ] **NO**
    If **YES**, which type? *(Check the best one.)*

    1. [ ] Airtight or well sealed stove or fireplace with outside combustion air. Well fitting damper and glass doors.
    2. [ ] Poorly sealed stove or a fireplace damper and no glass doors.
    3. [ ] Have fireplace with poorly fitting damper and no glass doors.

13. How many exhaust vents connect the heated living space to the outside?

    1. [ ] No undampered vents and less than 3 dampered vents.
    2. [ ] Less than three undampered or at least three dampered vents.
    3. [ ] More than three undampered vents.

14. How many times per day are outside doors used during heating season? *(Check the best one.)*

    1. [ ] 6 times or less.
    2. [ ] 6 to 13 times.
    3. [ ] more than 13 times per day.

15. Now, tell us the number of windows and doors in the **heated** part of your house.
(We must have an answer for the number of glass windows and doors. If you want a more precise analysis, also calculate the total glass area and provide that number in the space provided.)

	TOTAL AREA
How many average-sized or small windows?_____	_____sq. feet
How many have storm windows or double-pane glass?_____	_____sq. feet
How many large-sized picture windows?_____	_____sq. feet
How many have storm windows or double-pane glass?_____	_____sq. feet
How many sliding glass doors or door-sized glass panels?_____	_____sq. feet
How many have storm windows or double-pane glass?_____	_____sq. feet
How many **regular doors** (not sliding glass doors) in your house that lead to the outside or to **un**heated areas?_____	_____sq. feet
How many have storm doors?_____	_____sq. feet

16. Check major type of heat you are using and enter the unit cost. If you do not know the cost, enter a zero. Also check where the heat source is located.

TYPE	Located in heated area	Located in unheated area	Cost per unit
1. [ ] Natural gas	1. [ ]	1. [ ]	_____dollars/1,000 cubic feet
2. [ ] Propane	2. [ ]	3. [ ]	_____dollars/gallon
3. [ ] Oil	3. [ ]	3. [ ]	_____dollars/gallon
4. [ ] Coal	4. [ ]	4. [ ]	_____dollars/ton
5. [ ] Electric Resistance	5. [ ]	5. [ ]	_____dollars/kilowatt hour (KWH)
6. [ ] Electric Heat Pump	6. [ ]	6. [ ]	_____dollars/kilowatt hour (KWH)
7. [ ] Wood (hard wood)	7. [ ]	7. [ ]	_____dollars/cord

17. Is your home centrally air-conditioned? [ ] **YES** [ ] **NO** *(Answer "yes" if you have a heat pump that you use as an air-conditioner.)*
If yes, what is your average thermostat setting in the summer?_____°F.
And what is your air-conditioning electric rate?_____dollars/KWH,
or natural gas rate?_____dollars/1,000 cubic feet. If you do not know, enter a zero.

18. Finally, we need to estimate the climate for your area. Check the city or town closest to your house.

1. [ ] Abingdon
2. [ ] Norfolk
3. [ ] Lynchburg
4. [ ] Emporia
5. [ ] Richmond
6. [ ] Roanoke
7. [ ] Fairfax
8. [ ] Southwest Mountains
9. [ ] Staunton
10. [ ] Winchester
11. [ ] Danville

If you do not live in Virginia, give the names of the closest largest cities that have a climate like your area_____.

Return the completed form to your local Extension Agent or mail it to:

Division of Energy-HACC
State Office of Emergency and
Energy Services
310 Turner Road
Richmond, Virginia 23225

OR

Energy-HACC
222 C Robeson Hall
VPI & SU
Blacksburg, Virginia 24061

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