

How to measure and calculate residential square footage

When calculating total living area space, the livable floor area includes only livable area above-grade that is heated year round. This does not include three-season sun rooms, porches, verandas, or heated garages. In establishing the livable floor area, consideration should be given to potential use of the space. Where in question, the methodology used to establish livable floor area should be defined and applied consistently.

Appraisers adhere to detailed criteria in calculating total or gross living area, typically distinguishing above-grade from below-grade. Above-grade is space on any level of a dwelling with living area and, generally, has no earth adjacent to any exterior wall on that level, i.e., anything above the sill plate. Below-grade is space on any level which generally has earth adjacent to any exterior wall. If earth is adjacent to any portion of a wall, the entire level is generally considered to be below-grade. Exceptions can apply, especially with dwellings built into hills or slopes. Established square footage guidelines should be followed for your jurisdiction.

Measurements

Living area in a dwelling is based upon **exterior measurements**. A 100-foot tape measure that indicates linear footage in 'tenths of a foot' is recommended. This will eliminate conversions and will provide a more accurate calculation.

Begin at one corner of the dwelling; proceed with measuring each exterior wall, then round off your measurements to the nearest inch. Make a sketch of the structure. As you measure each wall, record each measurement on your sketch. Measure living areas and other areas, but identify them separately on your sketch. Look for offsets, i.e., portions of walls that jut out, and adjust for

any overlap of exterior walls or overhangs in upper levels.

When you cannot measure an exterior surface, measure interior perimeter walls and add an allowance for each exterior wall, using the thickness of your windows to determine the thickness of the exterior wall.

Measure all sides of the dwelling, making sure that the overall lengths of the front, rear and sides equal the correct total. Be sure to inspect the interior of the dwelling, such as the garage, to identify spaces which should be included in the living area.

Some dwellings have bay windows or circular areas that jut out from the house. Split irregular shapes into easy to calculate areas, such as triangles or rectangles. The dimensions of most dwellings can be split into multiple shapes for calculations. Take additional measurements of important segments, if you notice that odd shapes are emerging as you sketch the house.

Take a close look at your sketch before you leave the dwelling. Should your diagram show shorter portions of walls, in order to calculate the areas of subdivided shapes? Is there anything else you should document? Double check your figures. Appraisers who follow standard guidelines and document their measuring procedures are better equipped to defend their calculations if a complaint is filed.

Calculating square footage

From your sketch, identify and separate living area from other areas, such as garages, breezeways, etc. If measurements are in inches rather than tenths of a foot, convert your figures to a decimal. Calculate the living area by multiplying the length times the width of each rectangular space. Then add your subtotals and round off your figure for the total



square footage to the nearest square foot. Double check your calculations. When in doubt, recheck them and, if necessary, re-measure the dwelling.

When measuring an attached single-family dwelling, multi-family dwellings and duplexes use the same techniques as described. If there is a common wall, measure to the inside surface of the wall. In the case of condominiums, measure the interior of the unit. Do not include any common areas such as hallways.

For proposed construction, square footage calculations will be based upon dimensions described in the blueprints and building plans. When reporting the projected square footage, disclose that you have calculated the square footage based upon plan dimensions. Therefore, the square footage may differ in the completed structure. Do not rely on any calculations printed on the plans.

Types of dwellings

One-storey (basically self-explanatory) –

Exterior length times width of base of the dwelling and exterior length times width of projections and cantilevered areas. The area above-grade (ground) is considered livable floor area. Do not include the basement (below grade) area, developed or undeveloped as livable floor area.

One and one-half-storey without dormers –

The ground level is calculated the same as a one-storey dwelling. The upper or second level measurement, consider livable floor area as interior length times width to knee wall (angle where the wall meets the ceiling), an additional 6 to 8 inches may be included to account for the exterior wall.

Basic two-storey – Exterior length times width multiplied by two.

Two-storey with built-in garage – Exterior length times width, excluding the garage, and second level is exterior length times width.

Bi-levels, raised bungalows or split entries – Measure the exterior above-grade; basements in bi-levels are usually fully developed, however, this area is usually partly below-grade and should not be included in the livable floor area.

Split levels – Are generally the most confusing to measure, but remember to only include the livable area that is above the sill plate. Basement and crawl space areas are not considered to be livable floor area. Should you have a living space, sometimes beside the garage, that does not have a crawl space area or a basement beneath, this area is considered to be livable floor area because it is above-grade. 🏡

For further information and diagrams, please refer to the Appraisal Institute of Canada *Building Measurement Guidelines* in the Members Section of the website at www.aicanada.ca/images/content/docs/aic_building_measurement_guidelines_2006.pdf

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