Emmy Noether Public School needs to add a new wing to its main building. The contractor has the plans for the addition, but some measurements were missing. The new rooms are rectangular and are connected as shown.

The good news is that the contractor remembered some extra details.

- When describing the dimensions of a rectangle, the contractor uses *length* to describe the longer side, and *width* to describe the shorter side.
- The width of the classroom is the same as the length of the supply closet.
- The length of the classroom is three times longer than the width of the supply closet.
- The width of the library and the length of the office are the same.
- The width of the office is half the length of the library.

The contractor needs to order tiles for the new rooms.

A) What are the missing dimensions of the classroom and the office?

B) What is the total area needed to be covered by the tiles?

**Strands**  Measurement, Number Sense and Numeration