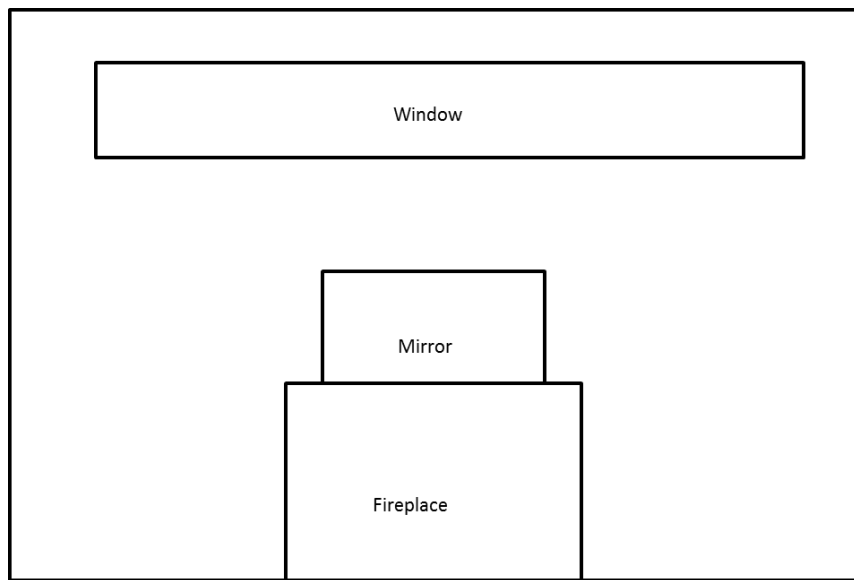


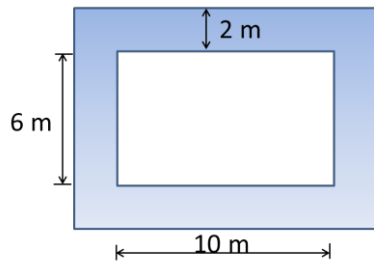
Problem Set

1. Below is a drawing of a wall that is to be covered with either wallpaper or paint. The wall is 8 ft. high and 16 ft. wide. The window, mirror, and fireplace are not to be painted or papered. The window measures 18 in. wide and 14 ft. high. The fireplace is 5 ft. wide and 3 ft. high, while the mirror above the fireplace is 4 ft. wide and 2 ft. high. (Note: this drawing is not to scale.)

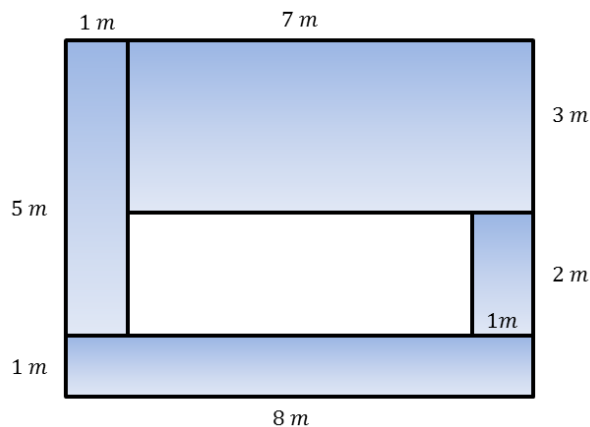


- How many square feet of wallpaper are needed to cover the wall?
 - The wallpaper is sold in rolls that are 18 in. wide and 33 ft. long. Rolls of solid color wallpaper will be used, so patterns do not have to match up.
 - What is the area of one roll of wallpaper?
 - How many rolls would be needed to cover the wall?
 - This week, the rolls of wallpaper are on sale for \$11.99/roll. Find the cost of covering the wall with wallpaper.
 - A gallon of special textured paint covers 200 ft^2 and is on sale for \$22.99/gallon. The wall needs to be painted twice (the wall needs two coats of paint). Find the cost of using paint to cover the wall.
2. A classroom has a length of 30 ft. and a width of 20 ft. The flooring is to be replaced by tiles. If each tile has a length of 36 in. and a width of 24 in., how many tiles are needed to cover the classroom floor?
3. Challenge: Assume that the tiles from Problem 2 are unavailable. Another design is available, but the tiles are square, 18 in. on a side. If these are to be installed, how many must be ordered?

4. A rectangular flower bed measures 10 m by 6 m. It has a path 2 m wide around it. Find the area of the path.



5. A diagram of Tracy's deck is shown below, shaded blue. He wants to cover the missing portion of his deck with soil in order to grow a garden.
- a. Find the area of the missing portion of the deck. Write the expression and evaluate it.



- b. Find the missing portion of the deck using a different method. Write the expression and evaluate it.
- c. Write two equivalent expressions that can be used to determine the area of the missing portion of the deck.
- d. Explain how each expression demonstrates a different understanding of the diagram.
6. The entire large rectangle below has an area of $3\frac{1}{2} \text{ ft}^2$. If the dimensions of the white rectangle are as shown below, write and solve an equation to find the area, A , of the shaded region.

