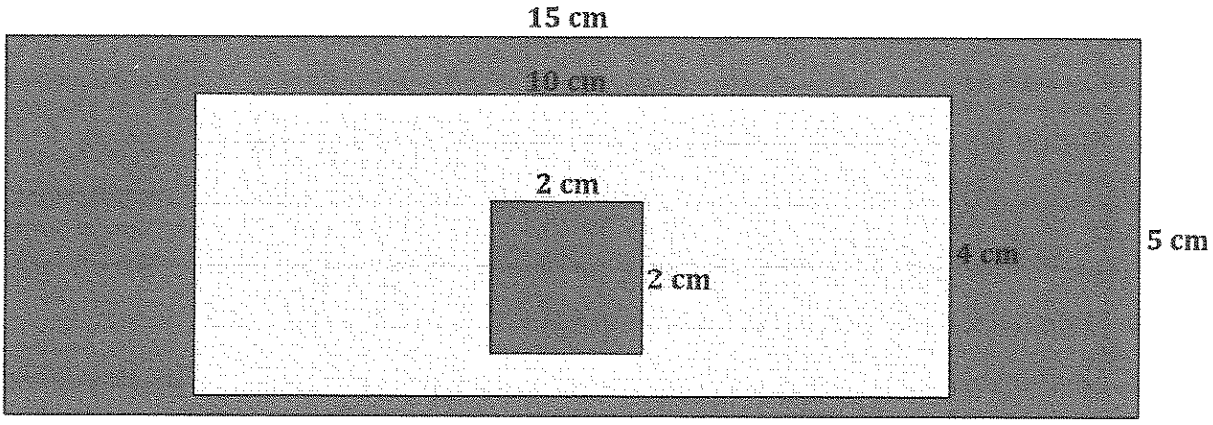
G4-M7-Lesson 16

1. Use a ruler and protractor to create and shade a figure according to the directions:

   Draw a rectangle that is 15 centimeters long and 5 centimeters wide. Inside the rectangle, draw a smaller rectangle that is 10 centimeters long and 4 centimeters wide. Inside the smaller rectangle, draw a square that has side lengths of 2 centimeters. Shade the larger rectangle and the square.

   Find the area of the shaded space.



To find the area of the shaded space, I subtract the area of the smaller, unshaded rectangle from the area of the larger, shaded rectangle, and add back the area of the square.

Large rectangle: $15 \text{ cm} \times 10 \text{ cm} = 150 \text{ square cm}$

Small rectangle: $10 \text{ cm} \times 4 \text{ cm} = 40 \text{ square cm}$

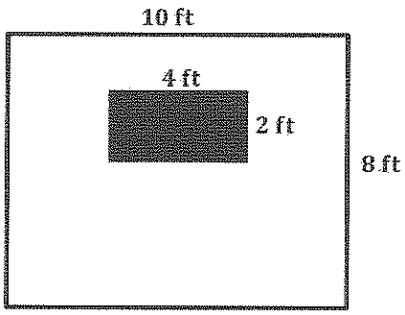
$150 \text{ square cm} - 40 \text{ square cm} = 110 \text{ square cm}$

Square: $2 \text{ cm} \times 2 \text{ cm} = 4 \text{ square cm}$

$110 \text{ square cm} + 4 \text{ square cm} = 114 \text{ square cm}$

The area of the shaded space is 114 square centimeters.

2. Zachary hangs a television that is 4 feet long and 2 feet wide on a wall that is 10 feet long and 8 feet tall. How much area of the wall is not covered up by the television?



Wall: $8 \text{ ft} \times 10 \text{ ft} = 80 \text{ square ft}$

TV: $2 \text{ ft} \times 4 \text{ ft} = 8 \text{ square ft}$

$80 \text{ square ft} - 8 \text{ square ft} = 72 \text{ square ft}$

72 square feet of the wall is not covered by the television.