

Related Practice – Answer Key
Math in Action Video: Landscape Architecture
Landscape Designer – Om Khurjekar

Directions: Complete the following activities to enhance your viewing of the Math in Action video and reinforce your understanding of math concepts.

Math in Action: Area

Your job as the landscape architect is to determine the size of the walkway in order to tell the contractor how many bricks you will need. Calculate the area of the walkway shown below.

Answer:

62 feet

15 feet

Rectangle 1

35 feet

Rectangle 2

15 feet

Area of Rectangle 1: $A = (62 \text{ ft})(15 \text{ ft}) = 930 \text{ ft}^2$

Area of Rectangle 2: $A = (35 \text{ ft} - 15 \text{ ft})(15 \text{ ft}) = (20 \text{ ft})(15 \text{ ft}) = 300 \text{ ft}^2$

Total Area = $930 \text{ ft}^2 + 300 \text{ ft}^2 = 1230 \text{ ft}^2$

Math in Action: Calculate the Number of Plants

Determine the number of plants needed to line the edge of the walkway (the dashed line edge) if each plant you will use is 1.5 feet on center.

Answer:

$$\begin{aligned} \text{Total Edge} &= 62 \text{ ft} + 35 \text{ ft} + (62 - 15) \text{ ft} + (35 - 15) \text{ ft} \\ &= 164 \text{ ft} \end{aligned}$$

$$\begin{aligned} \text{Number of plants} &= \frac{164 \text{ ft}}{1.5 \text{ ft/plant}} \\ &\approx 109.3 \text{ plants} \end{aligned}$$

so 109 or 110 plants are needed to line the edge