Name: Key

#1. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{15}{10} = \frac{3}{2} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{3}{2}\right)^2 = \frac{9}{4}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{24} = \frac{9}{4}$$

$$4x = 216$$

$$x = 54$$

Mssing Area = $54\ m^2$

#2. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{15}{6} = \frac{5}{2} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{5}{2}\right)^2 = \frac{25}{4}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{24} = \frac{25}{4}$$

$$4x = 600$$

$$x = 150$$

Mssing Area = $150\ cm^2$

#3. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{8}{12} = \frac{2}{3} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{2}{3}\right)^2 = \frac{4}{9}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{72} = \frac{4}{9}$$

$$9x = 288$$

$$x = 32$$

Mssing Area = $32\ in^2$

#4. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{4}{8} = \frac{1}{2} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{1}{2}\right)^2 = \frac{1}{4}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{56} = \frac{1}{4}$$

$$4x = 56$$

$$x = 14$$

Mssing Area = $14\ in^2$

#5. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{5}{9} = \frac{5}{9} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{5}{9}\right)^2 = \frac{25}{81}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{20} = \frac{25}{81}$$

$$81x = 500$$

$$x = 6\frac{14}{81}$$

Mssing Area = $6\frac{14}{81}\,ft^2$, $6.17\,ft^2$

#6. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{8}{3} = \frac{8}{3} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{8}{3}\right)^2 = \frac{64}{9}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{18} = \frac{64}{9}$$

$$9x = 1152$$

$$x = 128$$

Mssing Area = $128\,cm^2$

#7. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{5}{2} = \frac{5}{2} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{5}{2}\right)^2 = \frac{25}{4}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{8} = \frac{25}{4}$$

$$4x = 200$$

$$x = 50$$

Mssing Area = $50\,cm^2$

#8. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{7}{15} = \frac{7}{15} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{7}{15}\right)^2 = \frac{49}{225}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{25} = \frac{49}{225}$$

$$225x = 1{,}225$$

$$x = 5\frac{4}{9}$$

Mssing Area = $5\frac{4}{9}\,cm^2$ $5.\bar{4}\,cm^2$

key

#9. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{4}{11} = \frac{4}{11} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{4}{11}\right)^2 = \frac{16}{121}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{60} = \frac{16}{121}$$

$$121x = 960$$

$$x = 7\frac{113}{121}$$

Mssing Area = $7\frac{113}{121}\,cm^2$ $7.93\,cm^2$

#10. STEP 1: Find SLSF

$$SLSF = \frac{\textit{Length of side from shape with the missing area}}{\textit{Length of side from other shape}}$$

$$SLSF = \frac{3}{1} = \frac{3}{1} \quad (\text{Reduce})$$

STEP 2: Find the Area Scale Factor (ASF)

$$ASF = (SLSF)^2 = \left(\frac{3}{1}\right)^2 = \frac{9}{1}$$

STEP 3: Set–up proportion (x = missing area)

$$\frac{x}{12} = \frac{9}{1}$$

$$x = 108$$

Mssing Area = $108\,cm^2$