

## Simultaneous Equations

$$29a) \quad \begin{array}{r} 3a + 2b = 10 \quad \times 3 \\ 5a - 3b = 4 \quad \times 2 \end{array}$$

$$\begin{array}{r} 9a + 6b = 30 \\ + 10a - 6b = 8 \\ \hline 19a = 38 \end{array}$$

$$a = \underline{\underline{2}}$$

$$\begin{array}{r} 3(2) + 2b = 10 \\ 2b = 4 \\ b = \underline{\underline{2}} \end{array}$$

$$c) \quad \begin{array}{r} 4f + 2g = 6 \quad (\times 5) \\ 3f + 5g = 1 \quad (\times -2) \end{array}$$

$$\begin{array}{r} 20f + 10g = 30 \\ + -6f - 10g = -2 \\ \hline 14f = 28 \end{array}$$

$$f = \underline{\underline{2}}$$

$$\begin{array}{r} 4(2) + 2g = 6 \\ 2g = -2 \\ g = \underline{\underline{-1}} \end{array}$$

### VOLUME

$$\begin{aligned} 31) \quad V_{HS} &= \frac{2}{3} \pi r^3 \\ &= \frac{2}{3} \times \pi \times 7^3 \\ &= 718.4 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} 32) \quad V_1 &= \frac{1}{3} \times \pi \times 6^2 \times 5.6 \\ &= 211.1 \text{ cm}^3 \\ V_2 &= \frac{1}{3} \times \pi \times 1^2 \times 1.9 \\ &= 1.99 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} V_{\text{SHADED}} &= 211.1 - 1.99 \\ &= 209.1 \\ &= \underline{\underline{209 \text{ cm}^3}} \end{aligned}$$

$$b) \quad \begin{array}{r} 3c - 4d = -9 \\ 8c + 4d = 20 \\ \hline 11c = 11 \\ c = \underline{\underline{1}} \end{array}$$

$$\begin{array}{r} 3(1) - 4d = -9 \\ -4d = -12 \\ d = \underline{\underline{3}} \end{array}$$

$$30a) \quad \begin{array}{r} 2a + 3c = 41 \quad (\times 4) \\ 3a + 4c = 58 \quad (\times -3) \end{array}$$

$$\begin{array}{r} 8a + 12c = 164 \\ -9a - 12c = -174 \\ \hline -a = -10 \\ a = \underline{\underline{10}} \end{array}$$

$$\begin{array}{r} 2(10) + 3c = 41 \\ 3c = 21 \\ c = \underline{\underline{7}} \end{array}$$

1 adult costs £10  
1 child costs £7