



Exercise 1D

Question 2:

(i) $3\sqrt{5}$ by $2\sqrt{5}$

$$\begin{aligned} 3\sqrt{5} \times 2\sqrt{5} &= 3 \times 2 \times \sqrt{5} \times \sqrt{5} \\ &= (3 \times 2 \times 5) = 30. \end{aligned}$$

(ii) $6\sqrt{15}$ by $4\sqrt{3}$

$$\begin{aligned} 6\sqrt{15} \times 4\sqrt{3} &= 6 \times 4 \times \sqrt{15} \times \sqrt{3} \\ &= 24 \times \sqrt{15 \times 3} \\ &= 24 \times \sqrt{3 \times 5 \times 3} \\ &= 24 \times 3\sqrt{5} = 72\sqrt{5}. \end{aligned}$$

(iii) $2\sqrt{6}$ by $3\sqrt{3}$

$$\begin{aligned} 2\sqrt{6} \times 3\sqrt{3} &= 2 \times 3 \times \sqrt{6} \times \sqrt{3} \\ &= 6 \times \sqrt{6 \times 3} \\ &= 6 \times \sqrt{2 \times 3 \times 3} \\ &= 6 \times 3\sqrt{2} = 18\sqrt{2} \end{aligned}$$

(iv) $3\sqrt{8}$ by $3\sqrt{2}$

$$\begin{aligned} 3\sqrt{8} \times 3\sqrt{2} &= 3 \times 3 \times \sqrt{8} \times \sqrt{2} \\ &= 9 \times \sqrt{8 \times 2} \\ &= 9 \times \sqrt{2 \times 2 \times 2 \times 2} \\ &= (9 \times 2 \times 2) = 36. \end{aligned}$$

(v) $\sqrt{10}$ by $\sqrt{40}$

$$\begin{aligned} \sqrt{10} \times \sqrt{40} &= \sqrt{10 \times 40} \\ &= \sqrt{2 \times 5 \times 2 \times 2 \times 2 \times 5} \\ &= (2 \times 2 \times 5) = 20 \end{aligned}$$

(vi) $3\sqrt{28}$ by $2\sqrt{7}$

$$\begin{aligned} 3\sqrt{28} \times 2\sqrt{7} &= 3 \times 2 \times \sqrt{28} \times \sqrt{7} \\ &= 6 \times \sqrt{28 \times 7} \\ &= 6 \times \sqrt{2 \times 2 \times 7 \times 7} \\ &= (6 \times 2 \times 7) = 84. \end{aligned}$$

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