



Exercise 1F

Question 3:

(i)

$$3^{\frac{1}{4}} \times 5^{\frac{1}{4}} = (3 \times 5)^{\frac{1}{4}} = (15)^{\frac{1}{4}}.$$

(ii)

$$2^{\frac{5}{8}} \times 3^{\frac{5}{8}} = (2 \times 3)^{\frac{5}{8}} = (6)^{\frac{5}{8}}.$$

(iii)

$$6^{\frac{1}{2}} \times 7^{\frac{1}{2}} = (6 \times 7)^{\frac{1}{2}} = (42)^{\frac{1}{2}}.$$

Question 4:

(i)

$$(3^4)^{\frac{1}{4}} = 3^{\left(4 \times \frac{1}{4}\right)} = (3)^1 = 3.$$

(ii)

$$\left(3^{\frac{1}{3}}\right)^4 = 3^{\left(\frac{1}{3} \times 4\right)} = 3^{\frac{4}{3}}$$

(iii)

$$\left[\frac{1}{3^4}\right]^{\frac{1}{2}} = \left[3^{-4}\right]^{\frac{1}{2}} = 3^{\left(-4 \times \frac{1}{2}\right)} = 3^{-2}.$$

Question 5:

(i)

$$(49)^{\frac{1}{2}} = (7^2)^{\frac{1}{2}} = 7^{\left(2 \times \frac{1}{2}\right)} = 7^1 = 7.$$

(ii)

$$(125)^{\frac{1}{3}} = (5^3)^{\frac{1}{3}} = 5^{3 \times \frac{1}{3}} = 5^1 = 5.$$

(iii)

$$(64)^{\frac{1}{6}} = (2^6)^{\frac{1}{6}} = 2^{\left(6 \times \frac{1}{6}\right)} = 2^1 = 2.$$

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