Exercise 10J Blue Book

1d) $\sqrt{2} \times \sqrt{8} = \sqrt{16} = 4$

1h) $\sqrt{7} \times \sqrt{3} = \sqrt{21}$

1e) $\sqrt{5} \times \sqrt{6} = \sqrt{30}$

2d) $\sqrt{24} \div \sqrt{8} = \sqrt{3}$

2h) $\sqrt{21} \div \sqrt{3} = \sqrt{7}$

2e) $\sqrt{54} \div \sqrt{6} = \sqrt{9} = 3$

3d) $\sqrt{2} \times \sqrt{8} \times \sqrt{3} = \sqrt{16} \times \sqrt{3} = 4\sqrt{3}$

3h) $\sqrt{7} \times \sqrt{3} \times \sqrt{3} = 3\sqrt{7}$

3e) $\sqrt{5} \times \sqrt{6} \times \sqrt{30} = \sqrt{30} \times \sqrt{30} = 30$

4d) $\dfrac{\sqrt{2} \times \sqrt{8}}{\sqrt{8}} = \sqrt{2}$

4h) $\dfrac{\sqrt{7} \times \sqrt{3}}{\sqrt{3}} = \sqrt{7}$

4e) $\dfrac{\sqrt{5} \times \sqrt{6}}{\sqrt{30}} = \dfrac{\sqrt{30}}{\sqrt{30}} = 1$

5c) $\dfrac{\sqrt{a} \times \cancel{\sqrt{a}}}{\cancel{\sqrt{a}}} = \sqrt{a}$

6d) $\sqrt{50} = \sqrt{25 \times 2} = 5\sqrt{2}$

6h) $\sqrt{75} = \sqrt{25 \times 3} = 5\sqrt{3}$

6l) $\sqrt{200} = \sqrt{100 \times 2} = 10\sqrt{2}$

6p) $\sqrt{243} = \sqrt{81 \times 3} = 9\sqrt{3}$

4a) $\sqrt{2} \times \sqrt{3} \div \sqrt{2} = \sqrt{3}$

4e) $\sqrt{5} \times \sqrt{8} \div \sqrt{8} = \sqrt{5}$

4i) $\sqrt{2} \times \sqrt{7} \div \sqrt{2} = \sqrt{7}$

5a) $\sqrt{a} \times \sqrt{a} = a$

5b) $\sqrt{a} \div \sqrt{a} = 1$

6a) $\sqrt{18} = \sqrt{9 \times 2} = 3\sqrt{2}$

6b) $\sqrt{24} = \sqrt{4 \times 6} = 2\sqrt{6}$

6c) $\sqrt{12} = \sqrt{4 \times 3} = 2\sqrt{3}$

6e) $\sqrt{8} = \sqrt{4 \times 2} = 2\sqrt{2}$

6f) $\sqrt{27} = \sqrt{9 \times 3} = 3\sqrt{3}$

6g) $\sqrt{48} = \sqrt{16 \times 3} = 4\sqrt{3}$

6i) $\sqrt{45} = \sqrt{9 \times 5} = 3\sqrt{5}$

6j) $\sqrt{63} = \sqrt{9 \times 7} = 3\sqrt{7}$

6k) $\sqrt{32} = \sqrt{16 \times 2} = 4\sqrt{2}$

6m) $\sqrt{1000} = \sqrt{100 \times 10} = 10\sqrt{10}$

6n) $\sqrt{250} = \sqrt{25 \times 10} = 5\sqrt{10}$

6o) $\sqrt{98} = \sqrt{49 \times 2} = 7\sqrt{2}$

7d) $2\sqrt{8} \times 2\sqrt{8} = 4 \times 8 = 32$

7h) $2\sqrt{63} \times 2\sqrt{7} = 2\sqrt{9 \times 7} \times 2\sqrt{7}$

$= 6\sqrt{7} \times 2\sqrt{7}$

$= 12 \times 7 = 84$

7e) $2\sqrt{98} \times 2\sqrt{2} = 2\sqrt{49 \times 2} \times 2\sqrt{2}$

$= 14\sqrt{2} \times 2\sqrt{2}$

$= 28 \times 2 = 56$

7a) $2\sqrt{18} \times 3\sqrt{2}$

$= 2\sqrt{9 \times 2} \times 3\sqrt{2}$

$= 6\sqrt{2} \times 3\sqrt{2} = 18 \times 2 = 36$

7e) $2\sqrt{27} \times 4\sqrt{8}$

$2\sqrt{9 \times 3} \times 4\sqrt{4 \times 2}$

$= 6\sqrt{3} \times 8\sqrt{2} = 48\sqrt{6}$

7i) $2\sqrt{32} \times 4\sqrt{2}$

$2\sqrt{16 \times 2} \times 4\sqrt{2}$

$8\sqrt{2} \times 4\sqrt{2} = 32 \times 2 = 64$

7b) $4\sqrt{24} \times 2\sqrt{5}$

$= 4\sqrt{4 \times 6} \times 2\sqrt{5}$

$= 8\sqrt{6} \times 2\sqrt{5} = 16\sqrt{30}$

7f) $2\sqrt{48} \times 3\sqrt{8}$

$= 2\sqrt{16 \times 3} \times 3\sqrt{4 \times 2} = 8\sqrt{3} \times 6\sqrt{2} = 48\sqrt{6}$

7c) $3\sqrt{12} \times 3\sqrt{3}$

$= 3\sqrt{4 \times 3} \times 3\sqrt{3}$

$= 6\sqrt{3} \times 3\sqrt{3} = 18 \times 3 = 54$

7g) $2\sqrt{45} \times 3\sqrt{3}$

$2\sqrt{9 \times 5} \times 3\sqrt{3}$

$6\sqrt{5} \times 3\sqrt{3} = 18\sqrt{15}$

7k) $\sqrt{250} \times \sqrt{10}$

$= \sqrt{25 \times 10} \times \sqrt{10} = 5\sqrt{10} \times \sqrt{10} = 5 \times 10 = 50$
