

# Surds 2

7 Simplify each of these.

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

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

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

d  $2\sqrt{8} \times 2\sqrt{8}$

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

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

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

h  $2\sqrt{63} \times 2\sqrt{7}$

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

j  $\sqrt{1000} \times \sqrt{10}$

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

l  $2\sqrt{98} \times 2\sqrt{2}$

8 Simplify each of these.

a  $4\sqrt{2} \times 5\sqrt{3}$

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

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

d  $2\sqrt{2} \times 2\sqrt{8}$

e  $2\sqrt{5} \times 3\sqrt{8}$

f  $3\sqrt{3} \times 2\sqrt{3}$

g  $2\sqrt{6} \times 5\sqrt{2}$

h  $5\sqrt{7} \times 2\sqrt{3}$

i  $2\sqrt{2} \times 3\sqrt{7}$

j  $2\sqrt{2} \times 3\sqrt{18}$

k  $2\sqrt{6} \times 2\sqrt{6}$

l  $4\sqrt{5} \times 3\sqrt{6}$

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**8**) Simplify each of these.

a)  $4\sqrt{2} \times 5\sqrt{3}$

b)  $2\sqrt{5} \times 3\sqrt{3}$

c)  $4\sqrt{2} \times 3\sqrt{2}$

d)  $2\sqrt{2} \times 2\sqrt{8}$

e)  $2\sqrt{5} \times 3\sqrt{8}$

f)  $3\sqrt{3} \times 2\sqrt{3}$

g)  $2\sqrt{6} \times 5\sqrt{2}$

h)  $5\sqrt{7} \times 2\sqrt{3}$

i)  $2\sqrt{2} \times 3\sqrt{7}$

j)  $2\sqrt{2} \times 3\sqrt{18}$

k)  $2\sqrt{6} \times 2\sqrt{6}$

l)  $4\sqrt{5} \times 3\sqrt{6}$

8c)  $4\sqrt{2} \times 3\sqrt{2} = 12 \times 2 = 24$

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

8g)  $2\sqrt{6} \times 5\sqrt{2} = 10\sqrt{12} = 10\sqrt{4 \times 3} = 20\sqrt{3}$

8h)  $5\sqrt{7} \times 2\sqrt{3} = 10\sqrt{21}$

8e)  $4\sqrt{5} \times 3\sqrt{6} = 12\sqrt{30}$

**7**) Simplify each of these.

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

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

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

d)  $2\sqrt{8} \times 2\sqrt{8}$

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

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

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

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

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

j)  $\sqrt{1000} \times \sqrt{10}$

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

l)  $2\sqrt{98} \times 2\sqrt{2}$

Calculator work not needed

7c)  $3\sqrt{12} \times 3\sqrt{3} = 9\sqrt{36} = 9 \times 6 = 54$

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

7g)  $2\sqrt{45} \times 3\sqrt{3} = 2\sqrt{9 \times 5} \times 3\sqrt{3} = 6\sqrt{5} \times 3\sqrt{3} = 18\sqrt{15}$

7h)  $2\sqrt{63} \times 2\sqrt{7} = 2\sqrt{9 \times 7} \times 2\sqrt{7} = 6\sqrt{7} \times 2\sqrt{7} = 12 \times 7 = 84$

7k)  $\sqrt{250} \times \sqrt{10} = \sqrt{25 \times 10} \times \sqrt{10} = 5\sqrt{10} \times \sqrt{10} = 50$

7e)  $2\sqrt{98} \times 2\sqrt{2} = 2\sqrt{49 \times 2} \times 2\sqrt{2} = 14\sqrt{2} \times 2\sqrt{2} = 28 \times 2 = 56$

Complete first two columns of Q8 and Q7 above

