Math worksheet on *'Radicals - Multiplying Binomials (Values Only) (Level 3)'*. Part of a broader unit on *'Radicals - Multiplication Intro'*

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1 Multiply the radical expressions and simplify the answer

$$(3\sqrt{2}-\sqrt{11})\cdot(\sqrt{2}+4\sqrt{7})$$

a	$2+12\sqrt{14}-4\sqrt{77}$	**b**	$2+12\sqrt{14}-\sqrt{22}-4\sqrt{77}$
c	$2+12\sqrt{14}-4\sqrt{22}$	**d**	$6-12\sqrt{14}-\sqrt{22}-\sqrt{77}$
e	$14+\sqrt{22}+4\sqrt{77}$	**f**	$6+12\sqrt{14}-\sqrt{22}-4\sqrt{77}$

2 Multiply the radical expressions and simplify the answer

$$(2\sqrt{5}+\sqrt{5})\cdot(\sqrt{2}+4\sqrt{11})$$

a	$3\sqrt{10}+5\sqrt{55}$	**b**	$2-\sqrt{10}+12\sqrt{55}$
c	$3\sqrt{10}+8+4\sqrt{55}$	**d**	$3\sqrt{10}+12\sqrt{55}$
e	$2\sqrt{10}+6\sqrt{55}$	**f**	$3\sqrt{10}+1+4\sqrt{55}$

3 Multiply the radical expressions and simplify the answer

$$(\sqrt{3}+3\sqrt{7})\cdot(\sqrt{3}-5\sqrt{2})$$

a	$-12-5\sqrt{6}+3\sqrt{21}$	**b**	$3-5\sqrt{6}+3\sqrt{21}-\sqrt{14}$
c	$3-5\sqrt{6}+3\sqrt{21}-15\sqrt{14}$	**d**	$3-\sqrt{6}-3\sqrt{21}+15\sqrt{14}$
e	$3-5\sqrt{6}-3\sqrt{21}-15\sqrt{14}$	**f**	$3-4\sqrt{6}+4\sqrt{21}-15\sqrt{14}$

4 Multiply the radical expressions and simplify the answer

$$(4\sqrt{2}-\sqrt{13})\cdot(3\sqrt{7}+\sqrt{3})$$

a	$8\sqrt{2}-3\sqrt{91}-\sqrt{39}$	**b**	$12\sqrt{14}-3+4\sqrt{6}-\sqrt{39}$
c	$\sqrt{14}-3\sqrt{91}+4-\sqrt{39}$	**d**	$12\sqrt{14}-3\sqrt{91}+\sqrt{6}-3\sqrt{39}$
e	$12\sqrt{14}-3\sqrt{91}+4\sqrt{6}-\sqrt{39}$	**f**	$\sqrt{14}-\sqrt{91}+4\sqrt{6}-\sqrt{39}$

5 Multiply the radical expressions and simplify the answer

$$(4\sqrt{3}-\sqrt{13})\cdot(4\sqrt{3}+\sqrt{5})$$

a	$48-\sqrt{39}-4\sqrt{15}-\sqrt{65}$	**b**	$19-4\sqrt{39}+\sqrt{65}$
c	$44-2\sqrt{15}-\sqrt{65}$	**d**	$10-4\sqrt{39}+\sqrt{65}$
e	$48-4\sqrt{39}+4\sqrt{15}-\sqrt{65}$	**f**	$48-\sqrt{39}-4\sqrt{15}+\sqrt{65}$

6 Multiply the radical expressions and simplify the answer

$$(\sqrt{13}-3\sqrt{7})\cdot(\sqrt{11}+2\sqrt{13})$$

a	$\sqrt{143}+26-3\sqrt{77}-6\sqrt{91}$	**b**	$\sqrt{143}+13-\sqrt{77}-6\sqrt{91}$
c	$\sqrt{143}-25-3\sqrt{77}$	**d**	$\sqrt{143}+21-6\sqrt{91}$
e	$\sqrt{143}-29-6\sqrt{91}$	**f**	$27+\sqrt{77}-6\sqrt{91}$

7 Multiply the radical expressions and simplify the answer

$$(3\sqrt{5}-\sqrt{11})\cdot(\sqrt{11}+2\sqrt{13})$$

a	$3\sqrt{55}-6\sqrt{65}-1-2\sqrt{143}$	**b**	$\sqrt{55}+2\sqrt{65}-11-2\sqrt{143}$
c	$3\sqrt{55}+6\sqrt{65}-1-5\sqrt{143}$	**d**	$3\sqrt{55}+6\sqrt{65}-11+\sqrt{143}$
e	$3\sqrt{55}+6\sqrt{65}-11-2\sqrt{143}$	**f**	$3\sqrt{55}+2\sqrt{65}-1-2\sqrt{143}$