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

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1 Multiply the radical expressions and simplify the answer

$$xb\sqrt{2b}\cdot\left(b\sqrt{11xb}-5x\sqrt{11}\right)$$

a	$xb^5\sqrt{22x}-5x^2b\sqrt{22b}$	**b**	$xb^3\sqrt{22x}-5x^2b\sqrt{22b}$
c	$xb^3\sqrt{22x}-5x^3b\sqrt{22b}$	**d**	$xb^3\sqrt{22x}-5x^2b^2\sqrt{22b}$
e	$xb^3\sqrt{22x}-5x^2b^2\sqrt{22}$	**f**	$xb^3\sqrt{22x}-5x^4b\sqrt{22b}$

2 Multiply the radical expressions and simplify the answer

$$\left(4np\sqrt{13}-n\sqrt{7np}\right)\cdot n^2p^2\sqrt{7}$$

a	$4n^3p^3\sqrt{91}-7n^3p^3\sqrt{np}$	**b**	$4n^2p^3\sqrt{91}-7n^3p^2\sqrt{np}$
c	$n^3p^3\sqrt{91}-7n^3p^2\sqrt{np}$	**d**	$4n^4p^3\sqrt{91}-7n^3p^2\sqrt{np}$
e	$4n^3p^4\sqrt{91}-7n^3p^2\sqrt{np}$	**f**	$4n^3p^3\sqrt{91}-7n^3p^2\sqrt{np}$

3 Multiply the radical expressions and simplify the answer

$$\sqrt{2pd}\cdot\left(pd\sqrt{5}+4pd\sqrt{2}\right)$$

a	$pd\sqrt{10pd}+8pd\sqrt{p^{-1}d}$	**b**	$pd\sqrt{10pd}+8p^2d\sqrt{pd}$
c	$pd^2\sqrt{10p}+8pd\sqrt{pd}$	**d**	$p^2d\sqrt{10pd}+8pd\sqrt{pd}$
e	$pd\sqrt{10pd}+8pd\sqrt{pd}$	**f**	$pd\sqrt{10pd}+2pd\sqrt{pd}$

4 Multiply the radical expressions and simplify the answer

$$\left(5p\sqrt{3p}+p\sqrt{11}\right)\cdot p\sqrt{13p}$$

a	$5p^3\sqrt{39}+p^2\sqrt{143p^{-1}}$	**b**	$5p^3\sqrt{39}+p^2\sqrt{143p}$
c	$5p^5\sqrt{39}+p^2\sqrt{143p}$	**d**	$5p^3\sqrt{39}+p^2\sqrt{143}$
e	$5p^3\sqrt{39}+p\sqrt{143p}$	**f**	$5p^4\sqrt{39}+p^2\sqrt{143p}$

5 Multiply the radical expressions and simplify the answer

$$\sqrt{3x}\cdot\left(3n\sqrt{5}-\sqrt{5xn}\right)$$

a	$3n\sqrt{15x}-\sqrt{15xn}$	**b**	$3n\sqrt{15x}-\sqrt{15n}$
c	$3nx\sqrt{15}-x\sqrt{15n}$	**d**	$3n\sqrt{15x}-x\sqrt{15n}$
e	$3n\sqrt{15x}-x\sqrt{15}$	**f**	$3nx\sqrt{15x}-x\sqrt{15n}$

6 Multiply the radical expressions and simplify the answer

$$x\sqrt{3b}\cdot\left(\sqrt{7}+4\sqrt{13bx}\right)$$

a	$x\sqrt{21b}+4xb\sqrt{39x}$	**b**	$x\sqrt{21b}+4xb\sqrt{39x^{-1}}$
c	$x\sqrt{21b}+4x\sqrt{39bx}$	**d**	$x^2\sqrt{21b}+4xb\sqrt{39x}$
e	$x\sqrt{21b}+4xb\sqrt{x}$	**f**	$x\sqrt{21b}+4x^2b\sqrt{39}$

7 Multiply the radical expressions and simplify the answer

$$d\sqrt{3d}\cdot\left(4xd^2\sqrt{2x}+\sqrt{11}\right)$$

a	$4d^4x\sqrt{6x}+d\sqrt{33d}$	**b**	$4d^3x\sqrt{6dx^{-1}}+d\sqrt{33d}$
c	$4d^3x\sqrt{6dx}+d\sqrt{33}$	**d**	$4d^3x\sqrt{6dx}+d\sqrt{33d}$
e	$4d^3x\sqrt{6dx}+d^2\sqrt{33d}$	**f**	$5d^3x\sqrt{6dx}+d\sqrt{33d}$