



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

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1

$$(2pn\sqrt{11} - n\sqrt{11n}) \cdot (pn\sqrt{3pn} - 4pn\sqrt{5p})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$2p^2n^2\sqrt{33pn} - pn^2\sqrt{33p} - 3p^2n^2\sqrt{55p} + 4pn^2\sqrt{55pn} - 2p^2n^2\sqrt{11pn} - pn^2\sqrt{11} - 4p^2n^2\sqrt{55p} + 4pn^2\sqrt{55pn}$				

2

$$(2z^2\sqrt{3} + rz\sqrt{7r}) \cdot (z\sqrt{7z} - 2z\sqrt{11rz})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$2z^3\sqrt{21} - 4z^3r\sqrt{33} + 7rz^2\sqrt{7z} + 2z^3\sqrt{77z} - 4z^3\sqrt{33rz} + 7rz^2\sqrt{7z} + 9z^3\sqrt{77z} - 2z^3\sqrt{21} + 4z^3\sqrt{33rz} + 7rz^2\sqrt{7z} - 2z^3\sqrt{77z} - 4z^3\sqrt{33rz} + 7rz^2\sqrt{7z} + 2z^3\sqrt{77z}$				

3

$$(3n^2x^2\sqrt{7} - n^2x^2\sqrt{7}) \cdot (x\sqrt{5} - 4x\sqrt{3n})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$3n^2x^2\sqrt{35} - x^2\sqrt{35} + 12n^2x^2\sqrt{21n} - 4n^2x^2\sqrt{21n} - 3n^2x^2\sqrt{35} - x^2\sqrt{35} + 12n^2x^2\sqrt{21n} - 4n^2x^2\sqrt{21n}$				

4

$$(y^2c^2\sqrt{7} - 2y\sqrt{11}) \cdot (y^2\sqrt{7c} - 2\sqrt{7yc})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$7y^3c^2\sqrt{c} + 14y^2c^2\sqrt{7c} - 2y^3\sqrt{77c} + 4y\sqrt{77c} - 14y^3c^2\sqrt{7c} - 14y^2c^2\sqrt{7c} - 2y^3\sqrt{77c} + 4y\sqrt{77c} - 14y^3c^2\sqrt{7c} - 14y^2c^2\sqrt{7c} - 2y^3\sqrt{77c} + 4y\sqrt{77c}$				

5

$$(\sqrt{3dn} + 3d^2n\sqrt{2}) \cdot (dn\sqrt{5dn} - 3n^2\sqrt{11})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$3d^2n^2\sqrt{15} - 3n^2\sqrt{33dn} + 3d^2n^2\sqrt{15} - 3n^2\sqrt{33dn} - 3d^2n^2\sqrt{15} - 3n^2\sqrt{33dn} + 3d^2n^2\sqrt{15} - 3n^2\sqrt{33dn}$				

6

$$(p^2d^2\sqrt{7} + 4p\sqrt{7}) \cdot (d\sqrt{7pd} - 2p^2d\sqrt{3d})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$7p^3d^2\sqrt{pd} - 2p^3d^2\sqrt{21d} + 20pd^2\sqrt{pd} - 8p^3d^2\sqrt{21d} - 20pd^2\sqrt{pd} - 2p^3d^2\sqrt{21d} - 20pd^2\sqrt{pd} - 2p^3d^2\sqrt{21d}$				

7

$$(4d\sqrt{5} + rd\sqrt{7}) \cdot (rd^2\sqrt{2} - 4\sqrt{2d})$$

Multiply the radical expressions and simplify the answer

a	b	c	d	e
$4rd^2\sqrt{10} - 16rd\sqrt{10} + r^2d^2\sqrt{14} - 4rd^2\sqrt{14} - 4rd^2\sqrt{10} - 16rd\sqrt{10} + r^2d^2\sqrt{14} - 4rd^2\sqrt{14}$				