



Math worksheet on 'Radicals - Multiplying Monomials with Binomials (Values and Variables) (Level 1)'. Part of a broader unit on 'Radicals - Multiplication Intro'

Learn online: app.mobius.academy/math/units/radicals_multiplication_intro/

1 Multiply the radical expressions and simplify the answer

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

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|----------|-------------------------------|----------|--------------------------------|
| a | $z^3\sqrt{6} - 5z\sqrt{2z}$ | b | $z^2\sqrt{6z} - 5z^2\sqrt{2z}$ |
| c | $z^3\sqrt{6} - 5z^3\sqrt{2z}$ | d | $z^3\sqrt{6} - 5z^2\sqrt{2z}$ |
| e | $z^3\sqrt{6} - 5z^3\sqrt{2}$ | f | $z^5\sqrt{6} - 5z^2\sqrt{2z}$ |

2 Multiply the radical expressions and simplify the answer

$$\sqrt{3} \cdot (2p\sqrt{p} + \sqrt{2p})$$

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|----------|-----------------------------|----------|--------------------------------|
| a | $2p\sqrt{p} + \sqrt{6p}$ | b | $2p\sqrt{3p} + \sqrt{6}$ |
| c | $2p\sqrt{3p} + \sqrt{6p}$ | d | $2p^{-1}\sqrt{3p} + \sqrt{6p}$ |
| e | $2p^3\sqrt{3p} + \sqrt{6p}$ | f | $2p\sqrt{3p} + 3\sqrt{6p}$ |

3 Multiply the radical expressions and simplify the answer

$$p\sqrt{2p} \cdot (p^2\sqrt{13} + 3\sqrt{p})$$

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|----------|---------------------------------|----------|--------------------------------|
| a | $p^3\sqrt{26p} + 3p^2\sqrt{2p}$ | b | $p^3\sqrt{26p} + 3p^2\sqrt{2}$ |
| c | $p^3\sqrt{26p} + 3p\sqrt{2}$ | d | $p^4\sqrt{26} + 3p^2\sqrt{2}$ |
| e | $p^3\sqrt{26p} + 3p^3\sqrt{2}$ | f | $p^3\sqrt{26p} + 3p^2$ |

4 Multiply the radical expressions and simplify the answer

$$p\sqrt{2} \cdot (3 + p^2\sqrt{11})$$

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|----------|-------------------------------|----------|-----------------------------|
| a | $3p\sqrt{2} + p^3\sqrt{2}$ | b | $3p + p^3\sqrt{22}$ |
| c | $5p\sqrt{2} + p^3\sqrt{22}$ | d | $3p\sqrt{2} + p^3\sqrt{22}$ |
| e | $3p^2\sqrt{2} + p^3\sqrt{22}$ | f | $p\sqrt{2} + p^3\sqrt{22}$ |

5 Multiply the radical expressions and simplify the answer

$$(3r^2 - r^2\sqrt{3}) \cdot \sqrt{7}$$

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|----------|-------------------------------|----------|--------------------------------|
| a | $4r^2\sqrt{7} - r^2\sqrt{21}$ | b | $3r^2\sqrt{7} - 3r^2\sqrt{21}$ |
| c | $3r^2\sqrt{7} - r\sqrt{21}$ | d | $3r\sqrt{7} - r^2\sqrt{21}$ |
| e | $3r^2\sqrt{7} - r^2\sqrt{21}$ | f | $3r^3\sqrt{7} - r^2\sqrt{21}$ |

6 Multiply the radical expressions and simplify the answer

$$(c^2\sqrt{13} + 4c) \cdot \sqrt{5}$$

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|----------|-----------------------------|----------|------------------------------|
| a | $c^2\sqrt{65} + 2c\sqrt{5}$ | b | $c^2\sqrt{65} + 4c\sqrt{3}$ |
| c | $c^2\sqrt{65} + 4c\sqrt{5}$ | d | $4c^2\sqrt{65} + 4c\sqrt{5}$ |
| e | $c^2 + 4c\sqrt{5}$ | f | $c^2\sqrt{65} + 4c$ |

7 Multiply the radical expressions and simplify the answer

$$n^2\sqrt{5} \cdot (n\sqrt{13n} - 4n)$$

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|----------|--------------------------------|----------|-------------------------------------|
| a | $n^3\sqrt{65n} - 4n^4\sqrt{5}$ | b | $n^3\sqrt{65n^{-1}} - 4n^3\sqrt{5}$ |
| c | $n^3\sqrt{65n} - 4n^3\sqrt{5}$ | d | $n^2\sqrt{65n} - 4n^3\sqrt{5}$ |
| e | $n^3\sqrt{65n} - 4n^5\sqrt{5}$ | f | $n^3\sqrt{65n} - 4n^2\sqrt{5}$ |