



Math worksheet on 'Radicals - Adding and Subtracting - Simplification (Values and Variables) (Level 4)'. Part of a broader unit on 'Radicals - Addition and Subtraction Intro'

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2 $\sqrt{125d^3n^3} + \sqrt{20d^3n^4} + \sqrt{80d^3n}$

Simplify the radical expressions to prepare for adding or subtracting

a	b	c	d	e	f
$5n\sqrt{5d} + 2d\sqrt{5d} + 3d\sqrt{4n}$	$5d\sqrt{5d} + d^2\sqrt{2d} + 4d\sqrt{5d}$	$5d\sqrt{5d} + 2d\sqrt{5d} + 4d\sqrt{5d}$	$3d^2\sqrt{2d^2} + d^2\sqrt{5d} + 4d\sqrt{5d}$	$7d^2\sqrt{3d} + 4d\sqrt{5d}$	$5d\sqrt{5d} + 2d\sqrt{5d} + 6d\sqrt{3d}$

4 $\sqrt{176c^2x^2} - \sqrt{176c^2x^3} + \sqrt{275c^3x^2}$

Simplify the radical expressions to prepare for adding or subtracting

a	b	c	d	e	f
$4c\sqrt{11} - 4c\sqrt{11x} + 5c\sqrt{11c}$	$c\sqrt{11} - 6c\sqrt{7x^2} + 5c\sqrt{11c}$	$4c\sqrt{11} - 7c\sqrt{7x} + 5c\sqrt{11c}$	$4c\sqrt{11} - c^2\sqrt{10x^2} + 7c\sqrt{14c}$	$c\sqrt{14} - 4c\sqrt{11x} + 8c^2\sqrt{7c}$	$4c\sqrt{11} - 4c\sqrt{11x} + 2c\sqrt{7c}$

6 Simplify the radical expressions to prepare for adding or subtracting

$\sqrt[3]{54} - \sqrt[3]{128d^4r} - \sqrt[3]{54d^3r^4}$

a $3\sqrt[3]{2} - 7d\sqrt[3]{dr^3} - 3dr\sqrt[3]{2r}$	b $6 - 4d\sqrt[3]{2dr} - 3dr\sqrt[3]{2r}$
c $3\sqrt[3]{2} - 7d\sqrt[3]{d^3r} - dr\sqrt[3]{2r^3}$	d $2\sqrt[3]{2} - d\sqrt[3]{dr} - 3dr\sqrt[3]{2r}$
e $3\sqrt[3]{2} - 4d\sqrt[3]{2dr} - 3dr\sqrt[3]{2r}$	f $\sqrt[3]{3} - 4d^2\sqrt[3]{d^3r^3} - d^3r^2\sqrt[3]{r^2}$

1 Simplify the radical expressions to prepare for adding or subtracting

$\sqrt[3]{88n^4b^4} + \sqrt[3]{88n^2b^4} - \sqrt[3]{297n^2b}$

a $n^2\sqrt[3]{10nb} + b\sqrt[3]{12nb^2} - 4\sqrt[3]{7n^2b^3}$	b $2nb\sqrt[3]{11nb} + 2b\sqrt[3]{11n^2b} - 3\sqrt[3]{11n^2b}$
c $n\sqrt[3]{11nb} + 2b\sqrt[3]{11n^2b} - \sqrt[3]{9n^2b}$	d $n^2b^3\sqrt[3]{13nb} + 2b\sqrt[3]{11n^2b} - 3\sqrt[3]{11n^2b}$
e $n^2\sqrt[3]{10n^3b} + 2b\sqrt[3]{11n^2b} - \sqrt[3]{9nb}$	f $2nb\sqrt[3]{11nb} + 2b\sqrt[3]{11n^2b} - 2\sqrt[3]{10n^2b^3}$

3 Simplify the radical expressions to prepare for adding or subtracting

$\sqrt[3]{128z^3n^4} - \sqrt[3]{16z^3n^3} + \sqrt[3]{54z^3}$

a $4zn\sqrt[3]{2n} - 2zn^3\sqrt[3]{3} + 6z$	b $4zn\sqrt[3]{2n} - 2zn\sqrt[3]{2} + 6z\sqrt[3]{4}$
c $7zn^2\sqrt[3]{2n^2} - zn + 3z\sqrt[3]{2}$	d $4zn\sqrt[3]{2n} - 2zn^2\sqrt[3]{5} + 3z\sqrt[3]{2}$
e $6z^2n\sqrt[3]{3n^3} - 4zn^2 + 5z^2\sqrt[3]{3}$	f $4zn\sqrt[3]{2n} - 2zn\sqrt[3]{2} + 3z\sqrt[3]{2}$

5 Simplify the radical expressions to prepare for adding or subtracting

$\sqrt{44c^2r^2} + \sqrt{99r^2} + \sqrt{44c^4r^3}$

a $cr\sqrt{11} + 3r\sqrt{11} + c^2r\sqrt{14r^2}$	b $cr\sqrt{11} + 2r\sqrt{9} + 2c^2r\sqrt{11r}$
c $cr\sqrt{11} + 3r\sqrt{11} + 2c^2r\sqrt{11r}$	d $cr\sqrt{8} + r^3\sqrt{13} + 2c^2r\sqrt{11r}$
e $cr\sqrt{9} + 3r\sqrt{11} + 2c^2r\sqrt{11r}$	f $2cr\sqrt{11} + 3r\sqrt{11} + 3cr\sqrt{7r}$

7 Simplify the radical expressions to prepare for adding or subtracting

$\sqrt{176y^2} - \sqrt{99y^4} - \sqrt{275m^3y^3}$

a $y\sqrt{7} - 3y^2\sqrt{11} - 5my\sqrt{11my}$	b $y\sqrt{11} - 3y^2\sqrt{11} - 5my\sqrt{14my}$
c $y\sqrt{11} - 3y^2\sqrt{11} - 5my\sqrt{11my}$	d $y\sqrt{11} - 4y\sqrt{13} - 5my\sqrt{11my}$
e $y\sqrt{7} - 3y^2\sqrt{11} - 5my\sqrt{11my}$	f $y^2\sqrt{12} - 3y^2\sqrt{11} - 8my\sqrt{8my}$