

Calendar Math Quiz
Exponent Properties Quiz
New Calendar Math
2.3 Add and Subtract Radicals
Objective: Demonstrate understanding of adding and subtracting radicals.

Sep 22-3:43 PM

Homework ?'s

$$(2x^3 - 5x + 7)(x^2 + 1) - (x^5 + 7x + 7)$$

	$2x^3 - 5x$	$+7$	
x^2	$2x^5$	$-5x^3$	$7x^2$
1	$2x^3$	$-5x$	7

$$2x^5 - 3x^3 + 7x^2 - 5x + 7 - x^5 - 7x - 7$$

$$x^5 - 3x^3 + 7x^2 - 12x$$

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$$(4x + 10) + (-5x + 20)$$

$$4x + 10 - 5x + 20$$

a. $-x + 30$

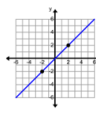
$$(4x + 10) - (-5x + 20)$$

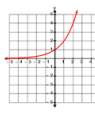
$$4x + 10 + 5x - 20$$

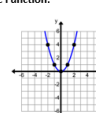
b. $9x - 10$

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Calendar Math

Linear Function: 

Exponential Function: 

Quadratic Function: 

Which of these three functions grows the fastest?

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2.3 Add and Subtract Radicals

To add or subtract radicals:

- simplify - break down inside
- combine like terms • same number inside.

Same index

Properties of Radicals		
$\sqrt[n]{a^n} = a$	$\sqrt[n]{ab} = \sqrt[n]{a} \cdot \sqrt[n]{b}$	$\sqrt[n]{\frac{a}{b}} = \frac{\sqrt[n]{a}}{\sqrt[n]{b}}$

$$\sqrt[3]{a^3} = a^{3/3} = a^1 = a$$

$$\sqrt{x^2} = x$$

$$\sqrt{xy} = \sqrt{x} \cdot \sqrt{y}$$

$$\sqrt{\frac{x}{y}} = \frac{\sqrt{x}}{\sqrt{y}}$$

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Simplifying Radicals:
 Radicals that are simplified have:

- No fractions left under the radical.
- No perfect power factors in the radicand
- No exponents in the radicand, greater than the index, n.

number or letter on the inside

Simplify the expressions below by adding or subtracting:

Ex 1) $-\sqrt{27} - 2\sqrt{3}$

$$-\sqrt{3 \cdot 3 \cdot 3} - 2\sqrt{3}$$

$$-3\sqrt{3} - 2\sqrt{3} = -5\sqrt{3}$$

Ex 2) $3\sqrt{12} + 2\sqrt{27} - 3\sqrt{27}$

$$3\sqrt{4 \cdot 3} + 2\sqrt{3 \cdot 3 \cdot 3} - 3\sqrt{3 \cdot 3 \cdot 3}$$

$$6\sqrt{3} + 6\sqrt{3} - 9\sqrt{3}$$

$$3\sqrt{3}$$

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Ex 3) $2\sqrt[3]{24} - 2\sqrt[3]{4} + 2\sqrt[3]{81}$
 $\begin{matrix} 6 & 4 & 22 & 9 & 203 \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ 2 & 2 & 3 & 3 & 3 \end{matrix}$
 $\sqrt[3]{2 \cdot 2 \cdot 2} \sqrt[3]{2 \cdot 2}$
 $2 \cdot 2\sqrt[3]{3}$
 $4\sqrt[3]{3} - 2\sqrt[3]{4} + 6\sqrt[3]{3}$
 $10\sqrt[3]{3} - 2\sqrt[3]{4}$

Ex 4) $-3\sqrt[3]{24} - 2\sqrt[3]{5} + 3\sqrt[3]{-6}$
 $\begin{matrix} 6 & 4 & 3 & 2 \\ \uparrow & \uparrow & \uparrow & \uparrow \\ 2 & 2 & 3 & 2 \end{matrix}$
 $3 \cdot 2\sqrt[3]{6}$
 $-3 \cdot 2\sqrt[3]{6}$
 $-6\sqrt[3]{6} - 2\sqrt[3]{5} + 3 \cdot 2\sqrt[3]{6}$

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5) $-\sqrt{45} + 3\sqrt{5} + 2\sqrt{5}$
 $-\sqrt{45} + 5\sqrt{5}$
 $\begin{matrix} 9 & 5 \\ \uparrow & \uparrow \\ 3 & 3 \end{matrix}$
 $-3\sqrt{5} + 5\sqrt{5} = 2\sqrt{5}$

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2) $-3\sqrt{20} + 3\sqrt{20}$
 0

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