

Day 46 Warm Up

Radicals Day 2 Adding and Subtracting Radicals

Choose the correct simplified expression for each:

	A	B
1. $\sqrt{12}$	$3\sqrt{4}$	$2\sqrt{3}$
2. $\sqrt[3]{x^{15}}$	x^5	x^{12}
3. $\sqrt[3]{27x^{24}}$	$3\sqrt[3]{x}$	$3x^8$
4. $\sqrt[4]{x^{29}}$	$x^7\sqrt[4]{x}$	x^7
5. $\sqrt{18}$	$2\sqrt{3}$	$3\sqrt{2}$
6. $\sqrt{300}$	$3\sqrt{10}$	$10\sqrt{3}$
7. $\sqrt{9+x}$	$\sqrt{9} + \sqrt{x}$	$\sqrt{9+x}$
8. $x^2 - 49$	$(x+7)(x-7)$	$(x-7)(x-7)$
9. $\sqrt[5]{x^{22}}$	$\sqrt[5]{x^4}$	$x^4\sqrt[5]{x^2}$
10. $\sqrt{72}$	$6\sqrt{2}$	$2\sqrt{6}$
11. $x^2 + 13x + 40$	$(x+4)(x+10)$	$(x+8)(x+5)$

Adding and Subtracting Radical Expressions

Simplify.

1) $3\sqrt{6} - 4\sqrt{6}$

2) $-3\sqrt{7} + 4\sqrt{7}$

3) $-11\sqrt{21} - 11\sqrt{21}$

4) $-9\sqrt{15} + 10\sqrt{15}$

5) $-10\sqrt{7} + 12\sqrt{7}$

6) $-3\sqrt{17} - 4\sqrt{17}$

7) $-10\sqrt{11} - 11\sqrt{11}$

8) $-2\sqrt{3} + 3\sqrt{27}$

9) $2\sqrt{6} - 2\sqrt{24}$

10) $2\sqrt{6} + 3\sqrt{54}$

11) $-\sqrt{12} + 3\sqrt{3}$

12) $3\sqrt{3} - \sqrt{27}$

$$13) 3\sqrt{8} + 3\sqrt{2}$$

$$14) -3\sqrt{6} + 3\sqrt{6}$$

$$15) -3\sqrt{20} - \sqrt{5}$$

$$16) 2\sqrt{45} - 2\sqrt{5}$$

$$17) 3\sqrt{18} - 2\sqrt{2}$$

$$18) -3\sqrt{18} + 3\sqrt{8} - \sqrt{24}$$

$$19) 3\sqrt{18} + 3\sqrt{12} + 2\sqrt{27}$$

$$20) -3\sqrt{5} - \sqrt{6} - \sqrt{5}$$

$$21) -3\sqrt{2} + 3\sqrt{20} - 3\sqrt{8}$$

$$22) -3\sqrt{3} - \sqrt{8} - 3\sqrt{3}$$

$$23) -2\sqrt{20} + 2\sqrt{18} - 2\sqrt{5}$$

$$24) 2\sqrt{18} - 2\sqrt{12} + 2\sqrt{18}$$

$$25) -\sqrt{45} + 2\sqrt{5} - \sqrt{20} - 2\sqrt{6}$$

$$26) 2\sqrt{20} - \sqrt{20} + 3\sqrt{20} - 2\sqrt{45}$$

$$27) -3\sqrt{45} + 2\sqrt{12} + 3\sqrt{6} - 3\sqrt{20}$$

$$28) -\sqrt{27} - 3\sqrt{45} - \sqrt{20} + 2\sqrt{45}$$

What Should You Do If Nobody Will Sing With You?



Simplify each expression. Find your answer below the exercise and notice the letter next to it. Write this letter in the box at the bottom of the page that contains the number of that exercise.

- ① $2\sqrt{5} + 4\sqrt{5}$
- ② $7\sqrt{3} - 3\sqrt{3}$
- ③ $2\sqrt{6} - 7\sqrt{6}$
- ④ $5\sqrt{x} + \sqrt{x}$
- ⑤ $9\sqrt{5} - 8\sqrt{5}$

- Ⓛ $4\sqrt{5}$ ⓔ $4\sqrt{3}$
- Ⓢ $6\sqrt{x}$ Ⓡ $3\sqrt{x}$
- Ⓣ $6\sqrt{5}$ Ⓝ $6\sqrt{3}$
- ⓐ $\sqrt{5}$ Ⓤ $-5\sqrt{6}$

- ⑥ $5\sqrt{10} + 4\sqrt{10} - \sqrt{10}$
- ⑦ $2\sqrt{3} - 6\sqrt{3} - 3\sqrt{3}$
- ⑧ $6\sqrt{7} + 3\sqrt{3} - 2\sqrt{7}$
- ⑨ $\sqrt{2} - 4\sqrt{6} + 5\sqrt{2} + \sqrt{6}$
- ⑩ $3\sqrt{a} + 9\sqrt{b} - \sqrt{b} - 2\sqrt{a}$

- ⓗ $8\sqrt{3}$ Ⓢ $4\sqrt{2} - \sqrt{6}$
- ⓔ $8\sqrt{10}$ ⓕ $4\sqrt{7} + 3\sqrt{3}$
- Ⓡ $\sqrt{a} + 8\sqrt{b}$ ⓐ $3\sqrt{a} + 7\sqrt{b}$
- Ⓣ $-7\sqrt{3}$ Ⓨ $6\sqrt{2} - 3\sqrt{6}$

- ⑪ $3\sqrt{12} + 4\sqrt{3}$
- ⑫ $8\sqrt{5} - 2\sqrt{45}$
- ⑬ $7\sqrt{18} + 2\sqrt{50}$
- ⑭ $6\sqrt{24} - 5\sqrt{54}$
- ⑮ $-\sqrt{27} + 4\sqrt{48}$

- Ⓡ $-3\sqrt{6}$ ⓔ $10\sqrt{3}$
- Ⓢ $-4\sqrt{3}$ Ⓛ $2\sqrt{6}$
- Ⓣ $2\sqrt{5}$ Ⓝ $13\sqrt{3}$
- ⓔ $24\sqrt{2}$ Ⓞ $31\sqrt{2}$

- ⑯ $5\sqrt{8} + \sqrt{98} - 2\sqrt{18}$
- ⑰ $2\sqrt{90} - 3\sqrt{20} + \sqrt{40}$
- ⑱ $4\sqrt{63} - 9\sqrt{28} + 2\sqrt{44}$
- ⑲ $2\sqrt{27x} + \sqrt{75x} + 5\sqrt{12x}$
- ⑳ $-6\sqrt{9x} + 3\sqrt{64x} - \sqrt{50x}$

- ⓑ $8\sqrt{3x}$ Ⓤ $6\sqrt{x} - 5\sqrt{2x}$
- Ⓛ $11\sqrt{2}$ Ⓢ $-6\sqrt{7} + 4\sqrt{11}$
- Ⓢ $\sqrt{10} - 9\sqrt{5}$ ⓓ $8\sqrt{10} - 6\sqrt{5}$
- Ⓚ $21\sqrt{3x}$ Ⓟ $3\sqrt{7} + \sqrt{11}$

10	2	15	7	5	17	20	11	1	9	13	3	14	18	6	16	8	19	4	12
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