

REVIEW: Adding and Subtracting Square Root Expressions

Name _____

Key Concept and Vocabulary

You can add or subtract radical expressions the same way you combine like terms, such as $5x + 4x = 9x$.

Adding and subtracting



Adding: $5\sqrt{3} + 4\sqrt{3} = 9\sqrt{3}$

Subtracting: $5\sqrt{3} - 4\sqrt{3} = \sqrt{3}$

Skill Examples

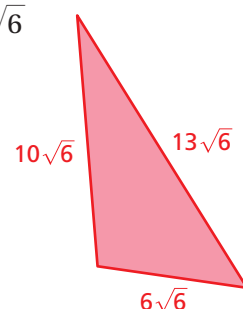
1. $12\sqrt{5} + 4\sqrt{5} = (12 + 4)\sqrt{5}$
 $= 16\sqrt{5}$

2. $9\sqrt{10} - 7\sqrt{10} = (9 - 7)\sqrt{10}$
 $= 2\sqrt{10}$

Application Example

3. What is the perimeter of the triangle?

Perimeter = $10\sqrt{6} + 13\sqrt{6} + 6\sqrt{6}$
 $= (10 + 13 + 6)\sqrt{6}$
 $= 29\sqrt{6}$



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Simplify the expression.

4. $5\sqrt{7} + 4\sqrt{7} = \underline{9\sqrt{7}}$

5. $15\sqrt{17} - 6\sqrt{17} = \underline{9\sqrt{17}}$

6. $2\sqrt{14} + 3\sqrt{14} = \underline{5\sqrt{14}}$

7. $7\sqrt{26} + 11\sqrt{26} = \underline{18\sqrt{26}}$

8. $9.5\sqrt{6} - 5.6\sqrt{6} = \underline{3.9\sqrt{6}}$

9. $1.6\sqrt{13} + 3.8\sqrt{13} = \underline{5.4\sqrt{13}}$

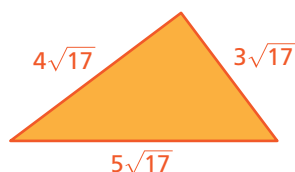
10. $2\sqrt{5} - 7\sqrt{5} = \underline{-5\sqrt{5}}$

11. $\frac{7}{4}\sqrt{15} - \frac{3}{4}\sqrt{15} = \underline{\frac{4}{4}\sqrt{15}} = \underline{\sqrt{15}}$

12. $\frac{11}{8}\sqrt{11} + \frac{5}{8}\sqrt{11} = \underline{\frac{16}{8}\sqrt{11}} = \underline{2\sqrt{11}}$

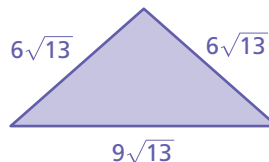
Find the perimeter of the figure.

13.



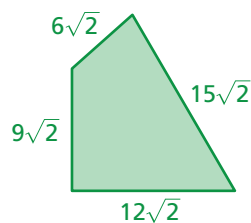
Perimeter = $\underline{12\sqrt{17}}$

14.



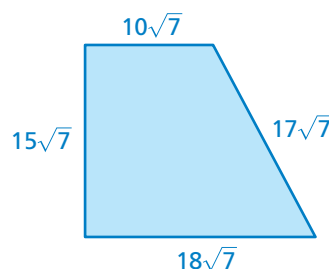
Perimeter = $\underline{21\sqrt{13}}$

15.



Perimeter = $\underline{42\sqrt{2}}$

16.



Perimeter = $\underline{60\sqrt{7}}$