

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: $7x + 3x = 10x$, so $7\sqrt{3} + 3\sqrt{3} = 10\sqrt{3}$.

Subtracting: $8x - 5x = 3x$, so $8\sqrt{2} - 5\sqrt{2} = 3\sqrt{2}$.

Skill Examples

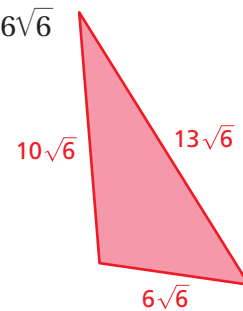
1. $12\sqrt{5} + 4\sqrt{5} = (12 + 4)\sqrt{5}$
 $= 16\sqrt{5}$

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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Check your answers at BigIdeasMath.com.

Simplify the expression.

4. $5\sqrt{7} + 4\sqrt{7} =$ _____

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

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

7. $7\sqrt{26} + 11\sqrt{26} =$ _____

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

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

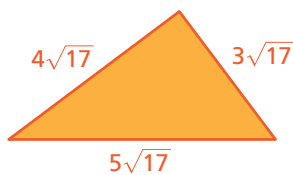
10. $2\sqrt{5} - 7\sqrt{5} =$ _____

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

12. $\frac{11}{8}\sqrt{11} + \frac{5}{8}\sqrt{11} =$ _____

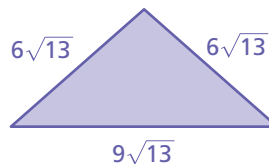
Find the perimeter of the figure.

13.



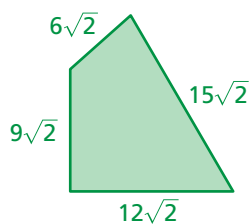
Perimeter = _____

14.



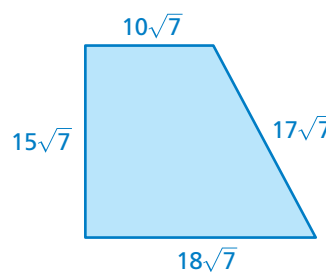
Perimeter = _____

15.



Perimeter = _____

16.



Perimeter = _____