Name _____ Date_____

Math 7 Honors   Radicals w/s #5

Directions: Simplify the following expressions completely.

1. $2\sqrt{24} - 2\sqrt{6}$

2. $2\sqrt{45} - 2\sqrt{5}$

3. $3\sqrt{5} - \sqrt{20} - \sqrt{5}$

4. $3\sqrt{18} + 3\sqrt{12} + 2\sqrt{27}$

5. $-3\sqrt{12} + 2\sqrt{3}$

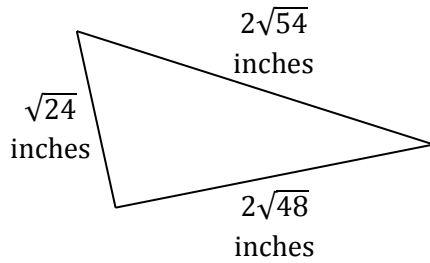6. What is the difference of $3\sqrt{125}$ and $\sqrt{20}$?

7. Find the sum of $2\sqrt{18}$ and $\sqrt{50}$.

8. $12\sqrt{96} - 5\sqrt{24}$

9. $7\sqrt{3} - 2\sqrt{12} + 8\sqrt{108}$

10. $4\sqrt{50} + 8\sqrt{72}$

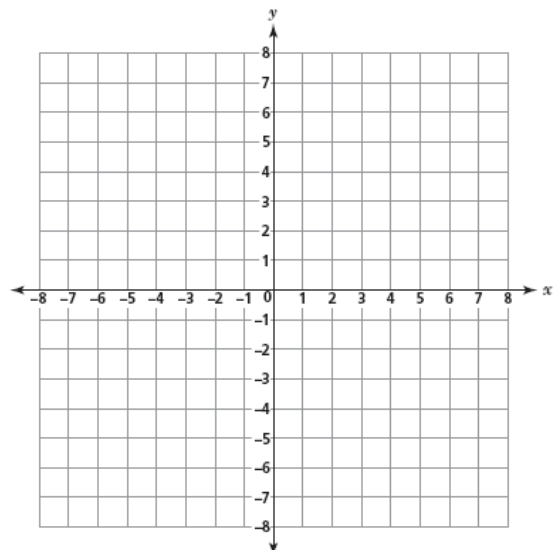11. Find the perimeter of the triangle in simplest radical form.

$2\sqrt{54}$ inches

$\sqrt{24}$ inches

$2\sqrt{48}$ inches

12. Monica drew a rectangle with a length of $5\sqrt{10}$ and a width of $\sqrt{160}$. Find the perimeter of the rectangle.

13. Find the perimeter of a square with a side length of $2\sqrt{3}$. Show your work.

14. Athena used a piece of construction paper to cut out two rectangles. The smaller rectangle has an area of $\sqrt{75}$ square centimeters, and the larger rectangle has an area of $6\sqrt{12}$ square centimeters. What is the combined area of the rectangles?

15. Laila plotted the points $(-2, 2)$ and $(4, 5)$. Determine the distance between these points in simplest radical form.
    Hint: Use the Pythagorean theorem.

16. The length of a rectangular garden is $2\sqrt{2}$ feet. The width of the garden is $\sqrt{18}$ feet. Determine the perimeter of the garden *in simplest radical form.*
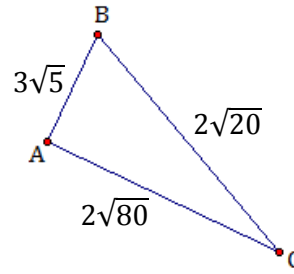
17. Find the perimeter of triangle ABC. *Show your work.*

Answer _____ *feet*

Answer _____

18. If $A = -3\sqrt{5}$ and $B = 2\sqrt{75}$, then determine the value of $A + B$.

19. A map scale of Camp Walden is shown below. Determine the distance from the Lake to the Peak. *Write your answer in simplest radical form.*

Answer _____

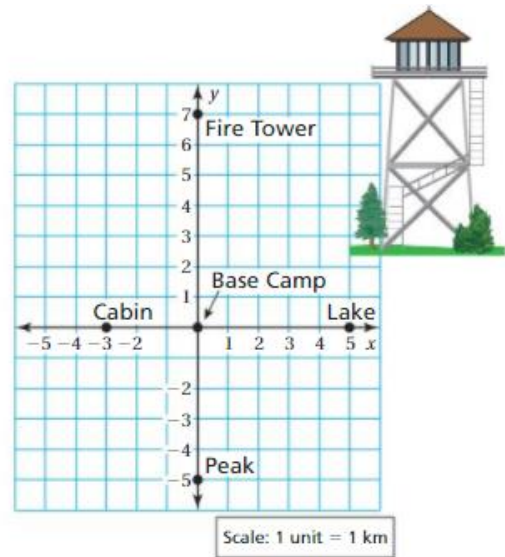20. The legs of a right triangle are $\sqrt{2}$ and $\sqrt{7}$. Determine the length of the hypotenuse.

Answer _____

Answer _____ *km*