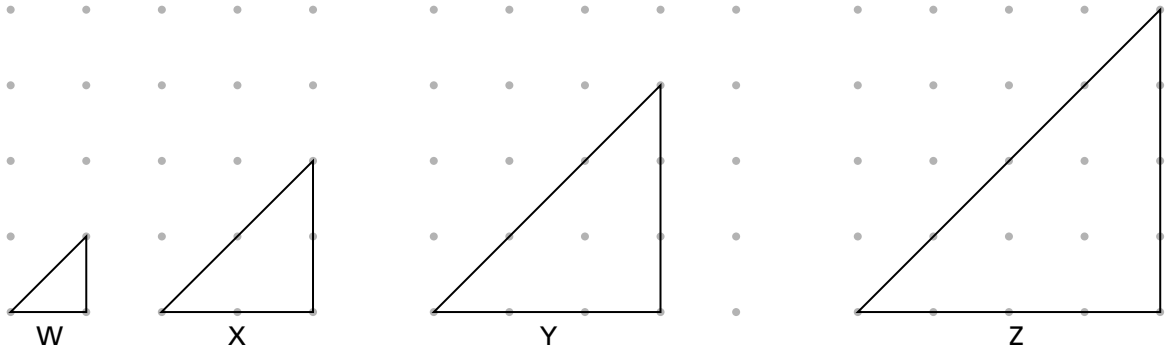
Name _____ Date _____ Class _____

Additional Practice

Investigation 3

Looking for Pythagoras

1. a. Find the length of the hypotenuse of each triangle.



b. How are the hypotenuse lengths in figures X, Y, and Z related to the hypotenuse length in figure W?

2. Draw a right triangle with a hypotenuse length of $\sqrt{5}$.

3. Draw a right triangle with a hypotenuse length of $2\sqrt{5}$.

4. Draw a right triangle with a hypotenuse length of $3\sqrt{5}$.

Additional Practice *(continued)*

5. Give the coordinates of two points on a coordinate grid that are $\sqrt{10}$ apart.

6. Give the coordinates of two points that are $\sqrt{13}$ apart.

7. Give the coordinates of two points that are $\sqrt{32}$ apart.

8. Give the coordinates of two points that are $7\sqrt{2}$ apart.

9. Give the coordinates of a point on a coordinate grid that is a distance of $\sqrt{5}$ from point $(1, 3)$.

10. Give the coordinates of a point that is a distance of $\sqrt{17}$ from point $(0, -5)$.

11. Give the coordinates of a point that is a distance of $2\sqrt{5}$ from point $(-10, -2)$.

12. Give the coordinates of a point that is a distance of $3\sqrt{5}$ from point $(8, -2)$.

13. What is the length of the line segment that connects points $(0, 0)$ and $(4, 2)$?

14. What is the length of the line segment that connects points $(0, 0)$ and $(2, 4)$?

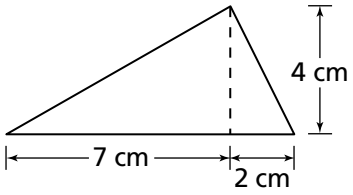
15. What is the length of the line segment that connects points $(-2, 0)$ and $(0, 2)$?

16. What is the length of the line segment that connects points $(0, -3)$ and $(3, 3)$?

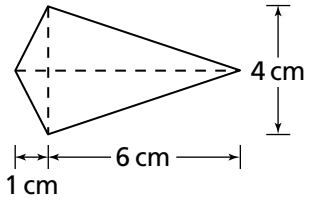
Additional Practice *(continued)*

For Exercises 17–19, find the perimeter of the figure to the nearest tenth of a centimeter.

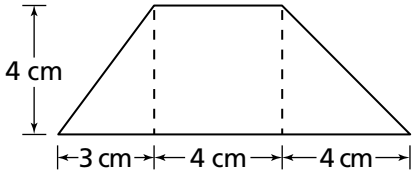
17.



18.



19.



For Exercises 20–23, use the map in Additional Practice, Investigation 1 to find the distance by helicopter between the two landmarks. Explain how you found the distance.

20. the greenhouse and the police station

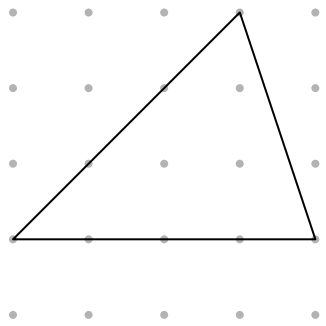
21. the police station and the art museum

22. the greenhouse and City Hall

23. City Hall and the animal shelter

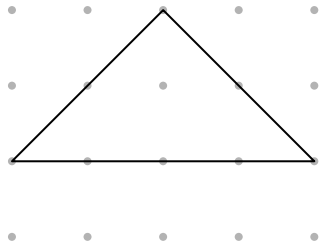
Additional Practice *(continued)*

For Exercises 24–26, find the perimeter of the right triangle. Express the perimeter as the sum of a whole number and square roots and as a single value using decimal approximations to the nearest tenth for the square roots. An example is done for you.

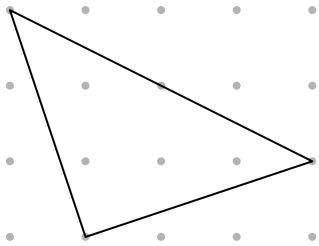


The perimeter of this figure is
$4 + \sqrt{10} + \sqrt{18} \approx 2 + 3.2 + 4. = 9.4$ units

24.



25.



26.