

Geometry Concepts for Middle School (6 - 8)

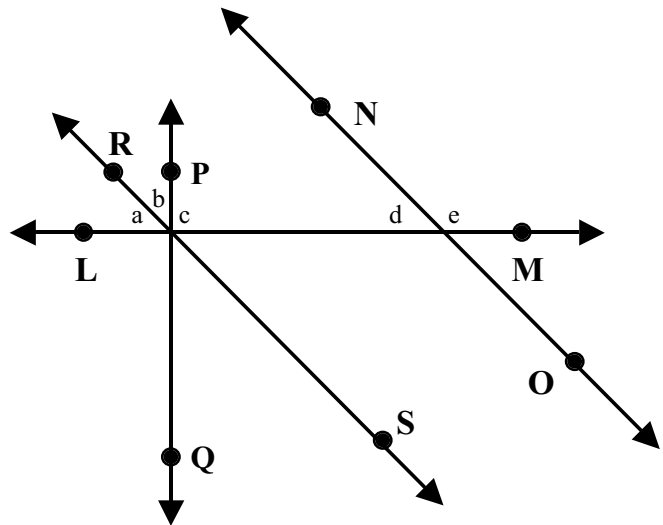
Name _____

Read each problem carefully. Answer as many as you can. Write answers clearly. You may write on this test. You may not use a calculator.

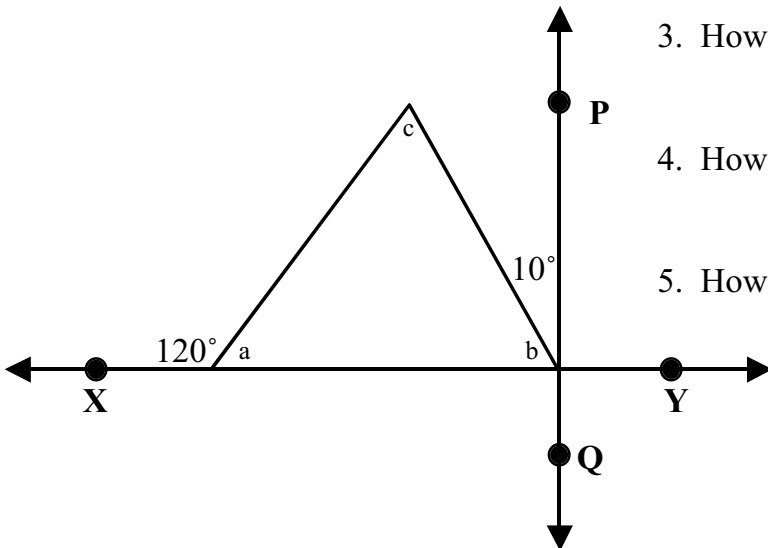
In the diagram below, PQ is perpendicular to LM and NO is parallel to RS . Use angles a , b , c , d , or e , to answer questions 1 and 2.

1. List all pairs of complementary angles.

2. List all pairs of supplementary angles.



In the diagram below, PQ is perpendicular to XY . Answer the next three questions about the diagram.



3. How many degrees in $\angle a$? _____

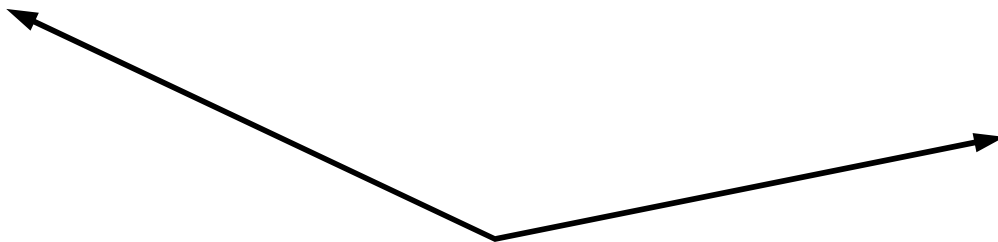
4. How many degrees in $\angle b$? _____

5. How many degrees in $\angle c$? _____

6. Use a protractor to draw an acute angle and label the angle measure.

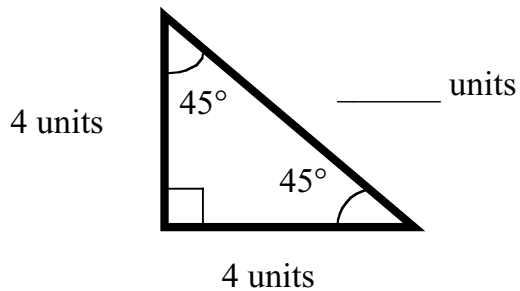


7. Use a protractor to measure the degree of this angle. Record its measure.

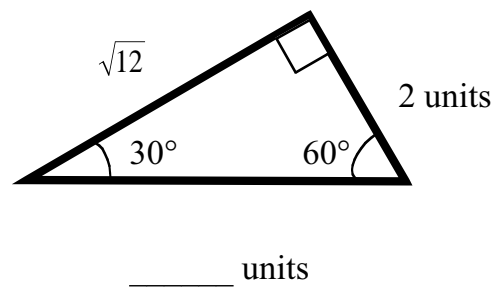


In items 8 and 9, use properties of right triangles to calculate the length of the hypotenuse in each right triangle.

8.

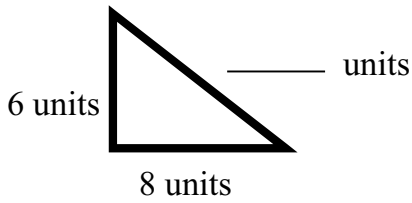


9.

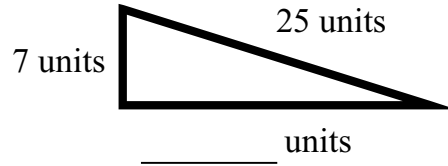


In items 10 and 11, use properties of right triangles to calculate the length of the missing side.

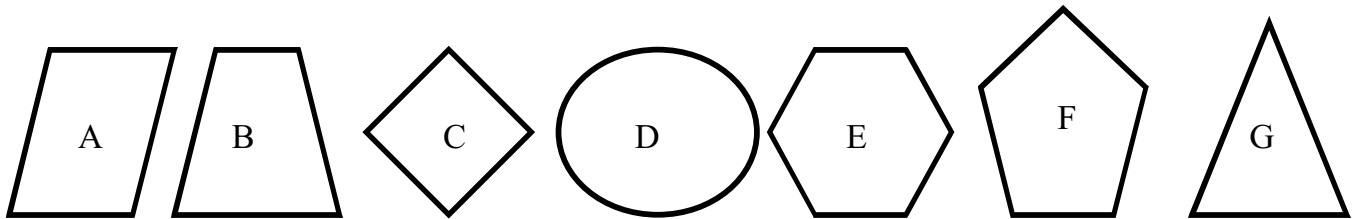
10.



11.



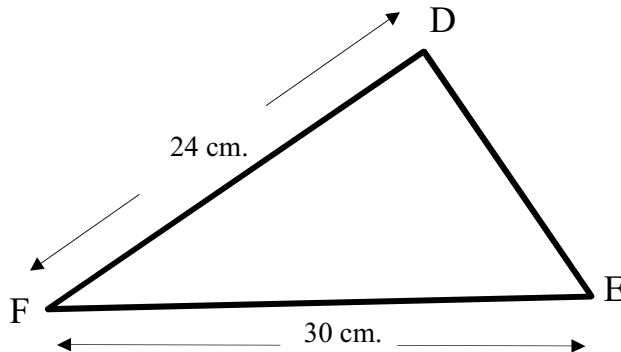
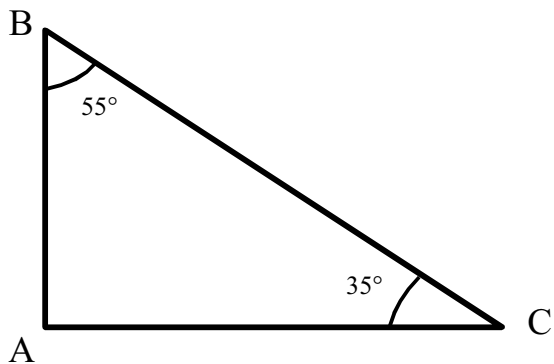
12.



Answer the following questions about the figures above. Record the letters of all shapes that answer the question correctly or record “none.”

- a) Which shapes are **not** polygons? _____
- b) Which shapes are quadrilaterals? _____
- c) Which shapes have at least one pair of parallel sides? _____
- d) Which shapes are polyhedrons? _____
- e) Which shapes have more than two lines of symmetry? _____
- f) Which shapes have interior angles that add up to 360° ? _____
- g) Which shapes have all sides congruent? _____

In the diagram below, $\triangle ABC$ is congruent to $\triangle DEF$. Answer questions 13, 14, 15, and 16. Be sure to label your answers.



13. What is the measure of $\angle D$? _____

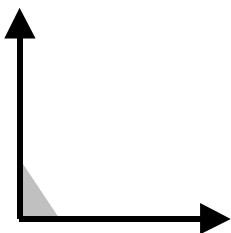
14. What is the length of side \overline{BC} ? _____

15. What is the measure of $\angle E$? _____

16. What is the length of side \overline{AC} ? _____

Estimate the degree measure of each angle below, then name the angle.

17.



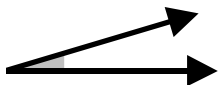
measure name

18.



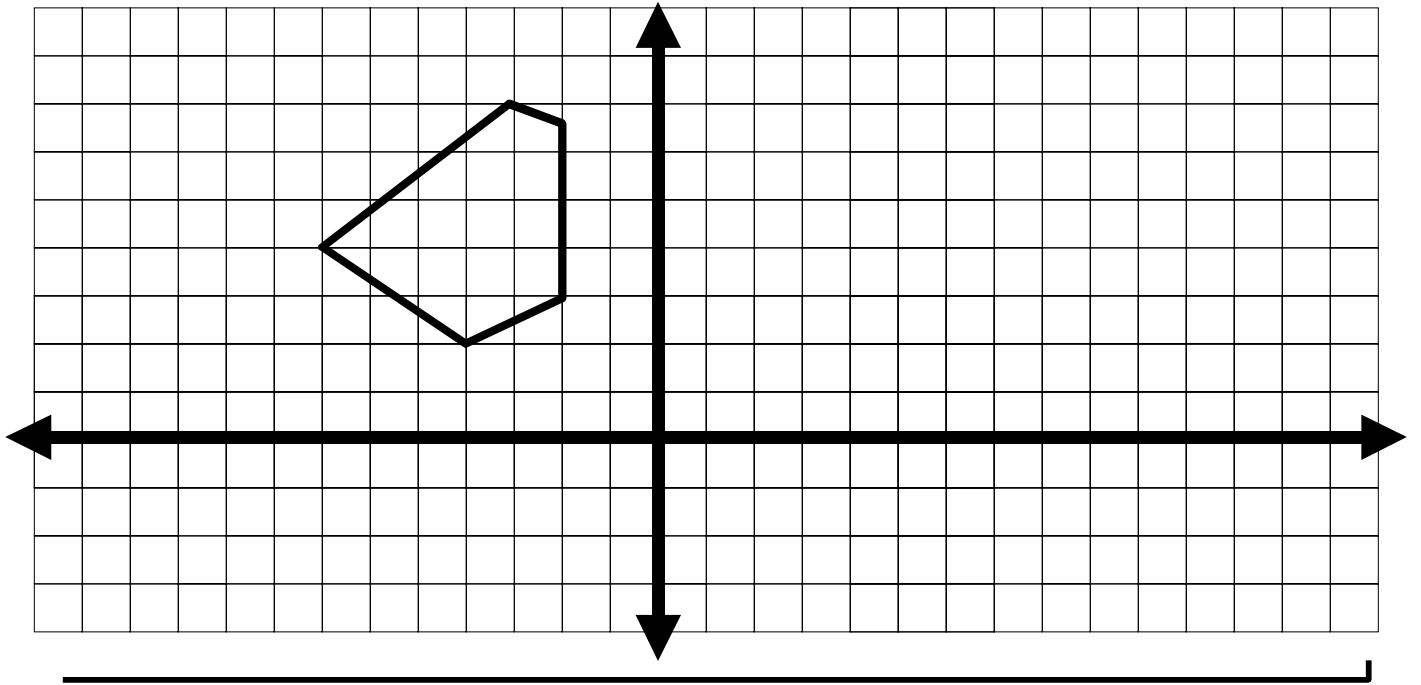
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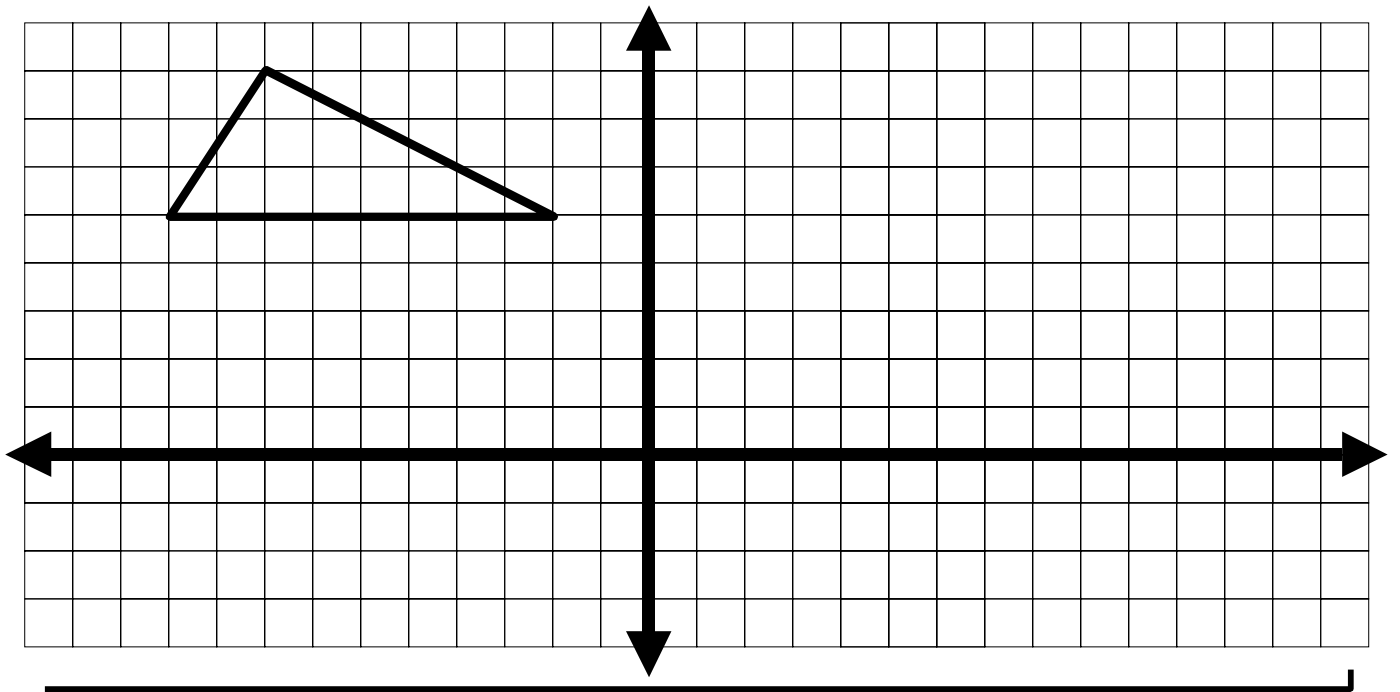


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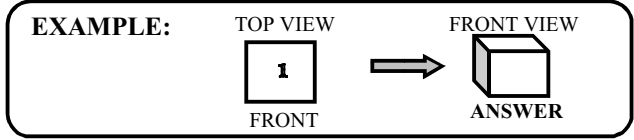
20. Reflect the preimage across the y-axis.



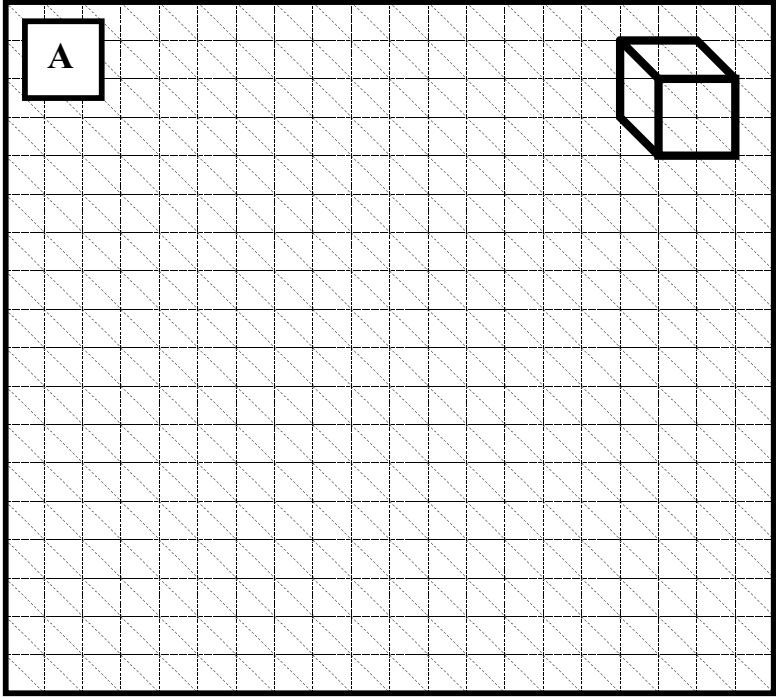
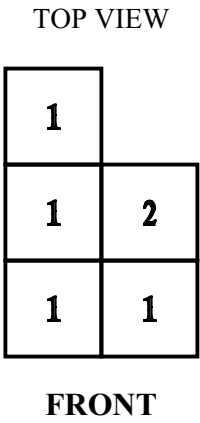
21. Translate the preimage 14 units horizontally.



22. Below is the top view of a structure. Build the structure shown using cubes. Draw the figure from a 3-dimensional perspective from the front-left corner view. The numbers denote the height of the cube structure.



A



23. Draw the different views of these cubes as indicated.

