

## Placement Test Instructions

This placement test can help you determine whether your child is ready for the Geometry Teaching Textbook. The test is not perfect, so in making any final placement decision also use common sense.

The student should work independently without the use of a calculator. It is not necessary to time the test, but most students will finish in less than  $1\frac{1}{2}$  hours.

### Scoring

The test is divided into two sections. Section 1 includes problems 1-15, covering material from the first half of our Algebra 1 product. Section 2 includes problems 16-30, covering material from the geometry chapters of our Pre-Algebra.

The student is probably ready for Geometry if he/she makes the following scores on the two sections.

**8 or more correct on Section 1 (problems 1 - 15)  
and 8 or more correct on Section 2 (problems 16 - 30)**

If the student's score falls below this level, he/she might want to spend some time reviewing Algebra 1 and the geometry chapters in Pre-Algebra before starting the Geometry course.

## Geometry Placement Test

### Section 1

Evaluate each expression below.

1.  $7 - 2(x - 4)$  when  $x = 5$

2.  $2x^2 - 8x - 10$  when  $x = -2$

Simplify each expression below.

3.  $y(y^2 + 3)$

4.  $(x - 3)(x + 4)$

5.  $(2y + 3)(y^2 + 3y - 1)$

6.  $(5x^2)(-3x^3)$

7.  $\frac{5x^2}{x^3 - x^2}$

Solve each equation below.

8.  $12x + 3 = 27$

9.  $6(y - 10) = 42$

10.  $9x - 2 = 4x + 13$

11.  $\frac{4}{3y} + \frac{5}{2y} = 1$

Solve each system of equations below.

12. 
$$\begin{cases} 2x + 5y = 12 \\ 2x + 3y = 8 \end{cases}$$

13. 
$$\begin{cases} 3x - 2y = 10 \\ y = x + 3 \end{cases}$$

Translate each problem below into an equation and solve.

14. Taylor and Blair are driving away from each other in opposite directions. If Blair's speed is 70 mph and Taylor's speed is 80 mph, how many hours will it be before the two are 225 miles apart?

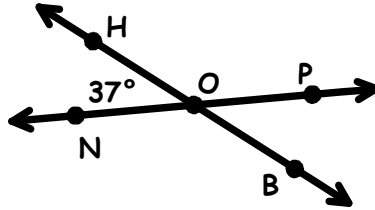
15. Adrian and Landry are employees at the Soap 'n Suds Car Wash. If Adrian can wash 3 cars per hour, and Landry can wash 5 cars per hour, how many hours will it take them to wash 56 cars?

**Section 2**

Use the figure on the right to find the measure of each angle below.

16.  $\angle BOP$

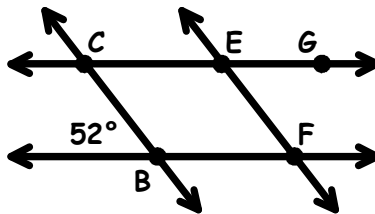
17.  $\angle HOP$



If  $\overline{CB} \parallel \overline{EF}$  and  $\overline{CE} \parallel \overline{BF}$ , find the measure of each angle indicated below.

18.  $\angle BCE$

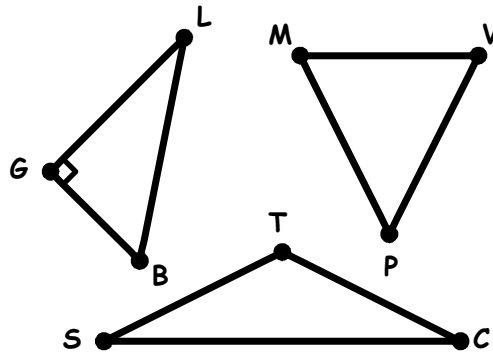
19.  $\angle FEG$



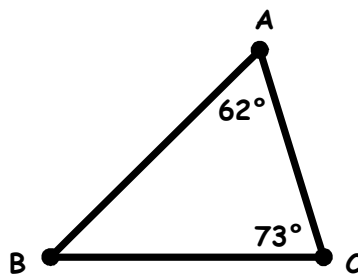
Use the diagrams to answer each problem below.

20. Which triangle is obtuse?

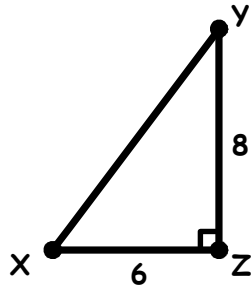
21. Which triangle is acute?



22. Find  $m\angle B$  in  $\triangle ABC$  below.

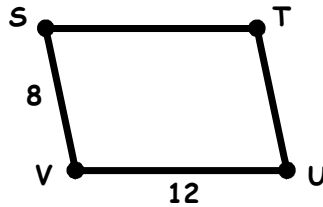


23. Use the Pythagorean Theorem to find  $XY$  in the right triangle below.

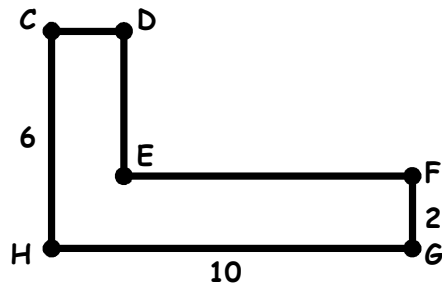


Answer each problem below. Use 3.14 for  $\pi$ .

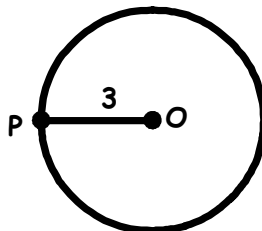
24. Find the perimeter of parallelogram  $STUV$ .



25. Find the perimeter of hexagon  $CDEFGH$ .

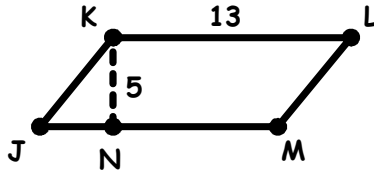


26. Find the circumference of  $\odot O$  where  $\overline{PO}$  is a radius.

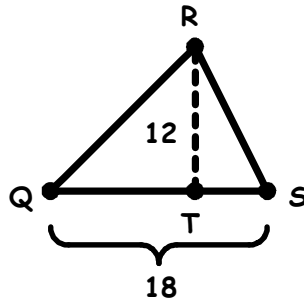


Find the area of each figure below. Use 3.14 for  $\pi$ .

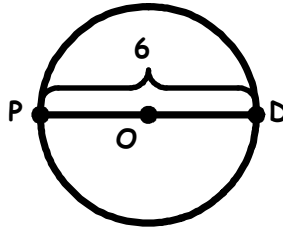
27.  $\overline{KN}$  is an altitude of parallelogram  $JKLM$ .



28.  $\overline{RT}$  is an altitude of  $\triangle QRS$ .

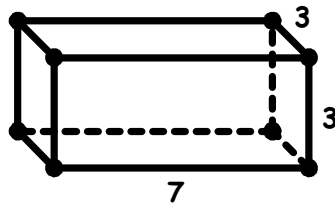


29.  $\overline{PD}$  is a diameter of  $\odot O$ .



Answer the problem below.

30. Find the volume of the rectangular solid.



**GEOMETRY  
PLACEMENT TEST**

1. 5
2. 14
3.  $y^3 + 3y$
4.  $x^2 + x - 12$
5.  $2y^3 + 9y^2 + 7y - 3$
6.  $-15x^5$
7.  $\frac{5}{x-1}$
8.  $x = 2$
9.  $y = 17$
10.  $x = 3$
11.  $y = \frac{23}{6}$
12.  $x = 1, y = 2$
13.  $x = 16, y = 19$
14. 1.5 hours
15. 7 hours
16.  $m\angle BOP = 37$
17.  $m\angle HOP = 143$
18.  $m\angle BCE = 52$
19.  $m\angle FEG = 52$
20.  $\triangle STC$  is obtuse.
21.  $\triangle MVP$  is obtuse.
22.  $m\angle B = 45$
23.  $XY = 10$
24. Perimeter = 40
25. Perimeter = 32
26. Circumference =  $6\pi$
27. Area = 65
28. Area = 108
29. Area =  $9\pi$
30. Volume = 63