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. $\dfrac{5x^2}{x^3-x^2}$

Solve each equation below.

8. $12x+3=27$

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

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

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

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?

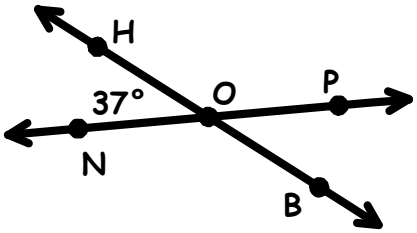
15. Adrian and Landry are employees at the Soap 'n Suds Car Wash. If Adrian can wash 3 cars per hour, and Landry can wash 5 cars per hour, how many hours will it take them to wash 56 cars?

Section 2

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

16. $\angle BOP$

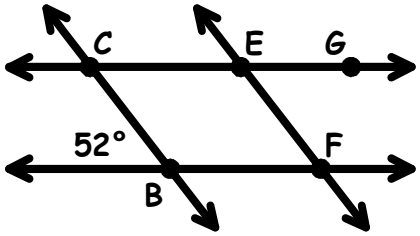
17. $\angle HOP$



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

18. $\angle BCE$

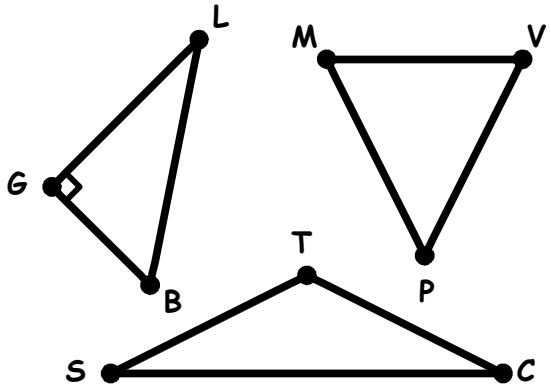
19. $\angle FEG$



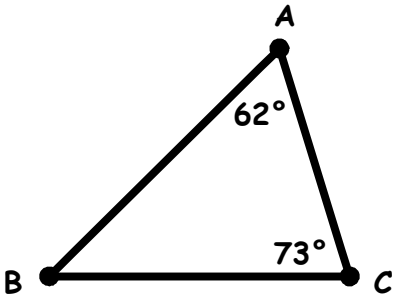
Use the diagrams to answer each problem below.

20. Which triangle is obtuse?

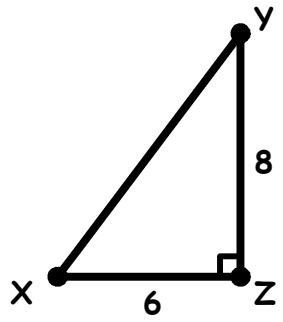
21. Which triangle is acute?



22. Find $m\angle B$ in ΔABC below.

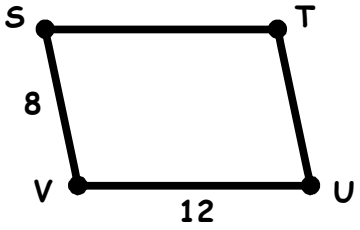


23. Use the Pythagorean Theorem to find *XY* in the right triangle below.

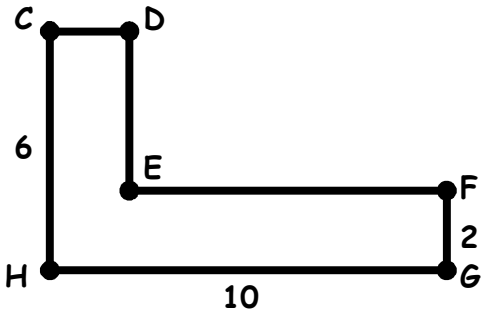


Answer each problem below. Use 3.14 for π.

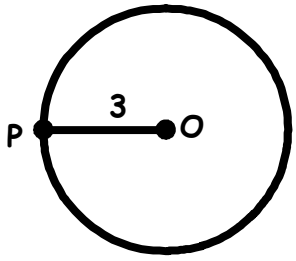
24. Find the perimeter of parallelogram *STUV*.



25. Find the perimeter of hexagon *CDEFGH*.

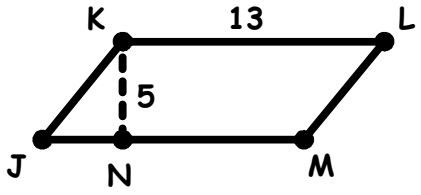


26. Find the circumference of $\odot O$ where $\overline{PO}$ is a radius.

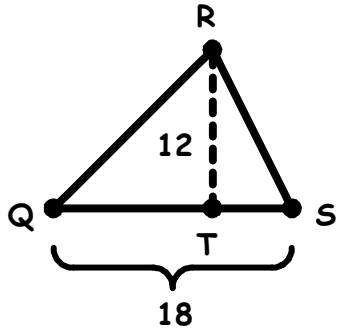


Find the area of each figure below. Use 3.14 for π.

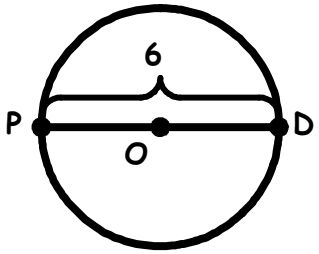
27. $\overline{KN}$ is an altitude of parallelogram *JKLM*.



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



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



Answer the problem below.

30. Find the volume of the rectangular solid.