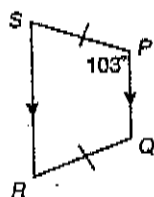## Cumulative Test 15A

1. (62) A swimming pool is in the shape of a cylinder with a height of 5 feet and a radius of 9 feet. How many cubic feet of water can the swimming pool hold? Use 3.14 for π.

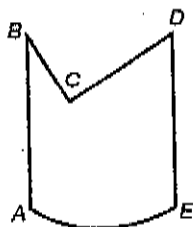2. (69) Find the measures of $\angle Q$, $\angle R$, and $\angle S$ in trapezoid $PQRS$.

3. (71) A square has vertices P (2, 2), Q (5, 2), R (5, 5), and S (2, 5). It is translated 4 units to the right. What are the coordinates of P', Q', R', and S'?
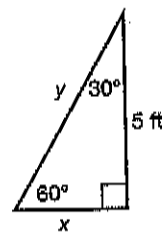
4. (63) Add vectors $\vec{a}$ and $\vec{b}$ in the diagram below.
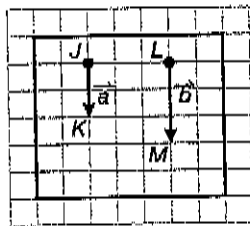
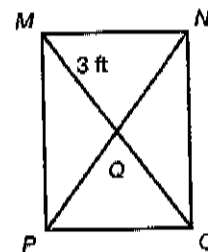5. (67) Reflect the figure shown below across $\overline{DE}$.

6. (56) Find the perimeter of the triangle shown below. Give your answer in simplified radical form.


7. (66) Use the apothem and perimeter to find the area of a regular hexagon with side length 8 feet.

8. (52) A rectangular tabletop has diagonal braces as shown below. If MQ is 3 feet long, what is the length of $\overline{NP}$?


9. (68) Use a calculator to evaluate the expression $\cos 51°$. Round the answer to the nearest hundredth.

10. (72) In the diagram below, $\overline{AD}$ and $\overline{BC}$ are internal common tangents to $\odot E$ and $\odot F$. Find the lengths of $\overline{AG}$ and $\overline{BG}$.

Saxon Geometry
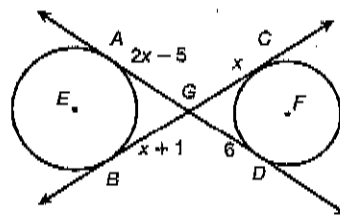
11. (73) In the diagram below, use the angle of elevation between the flag and the person to find the horizontal distance between the flag and the person, and the height of the flag.


80 ft

y

26°

x
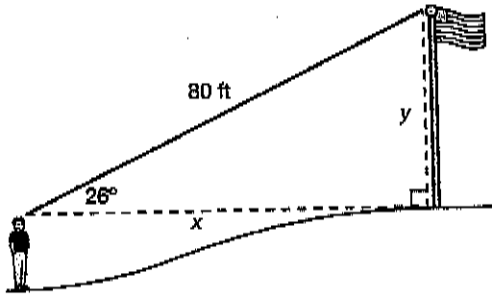
12. (70) Calculate the surface area of a regular hexagonal pyramid with a slant height of 9 meters and a base side length of 4 meters.

13. (37) Write the equation of a line that is perpendicular to $y = \frac{4}{5}x$ and passes through the point (12, 10).
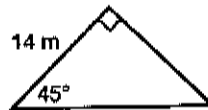
14. (59) Find the volume of a right prism where the base is a 4-feet-by-6-feet rectangle and the height is 3 feet.

15. (75) In the diagram below, if *B* is a point on ⊙*A*, write the equation of ⊙*A*.
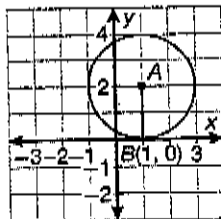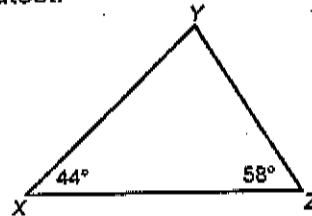

16. (57) Find the perimeter of rectangle *EFGH* with coordinates *E* (−1, 4), *F* (6, 4), *G* (6, −1), and *H* (−1, −1).

17. (53) Find the perimeter of the triangle shown below.

14 m

45°

18. (39) Order the sides of △*XYZ* from least to greatest.

Y

44°   58°

X   Z

19. (51) The perimeter of △*ABC* is 24 inches, and ∠*A* ≅ ∠*B*. If $\overline{AB}$ = 10 inches, determine the length of segment *AC*.

20. (74) In the diagram below, reflect △*DEF* across the *y*-axis. Find the coordinates of the vertices of the reflected image and write the transformation in mapping notation.

Saxon Geometry