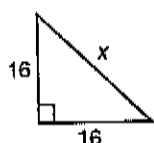


# Cumulative Test 10A

1. (42) A school only provides bus service to students who live a distance greater than 2 miles away from the school. On a coordinate plane, the school is located at the origin, and Michael lives at the closest point to the school on Maple Street, which can be represented by the line  $y = 2x - 4$ . If each unit on the coordinate plane represents 1 mile, does Michael live far enough from the school for bus service?

2. (33) Find the value of  $x$  in the diagram below. Write your answer in simplified radical form.



3. (26) The measure of  $\widehat{AB}$  is given by the expression  $4x + 10$ , and the measure of  $\widehat{XY}$  is given by the expression  $6x - 20$ . It is given that  $\widehat{AB} \cong \widehat{XY}$ . Determine the value of  $x$  and the measure of each arc.

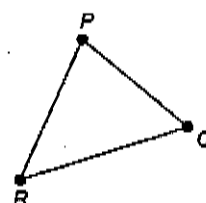
4. (41) Solve the proportion  $\frac{9}{63} = \frac{x}{77}$  to find the value of  $x$ .

5. (37) Are the lines  $y = 3x - 5$  and  $y = 4 + 3x$  parallel, perpendicular, or neither?

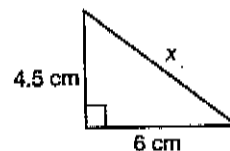
6. (48) Write an indirect proof to prove Theorem 4-2: If there is a line and a point not on the line, then exactly one plane contains them.

7. (36) Find the area of sector  $AOB$  with radius 36 feet and  $m\widehat{AOB} = 55^\circ$ . Give your answer in terms of  $\pi$ .

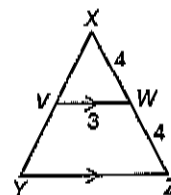
8. (28) What is the included side of  $\angle P$  and  $\angle Q$  in the triangle below? What is the included angle of  $\overline{PR}$  and  $\overline{QR}$ ?



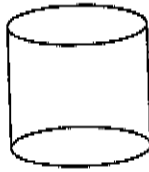
9. (29) Find the unknown length  $x$  in the triangle below. Do the side lengths form a Pythagorean triple?



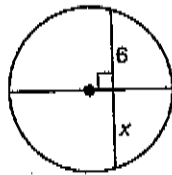
10. (46) Show that the two triangles below are similar if  $\overline{VW} \parallel \overline{YZ}$ . Then find  $YZ$ .



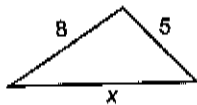
11. (49) Classify the three-dimensional solid shown below.



12. (43) Find the length  $x$  in the diagram below.



13. (39) Find the range of values for  $x$  in the triangle below.

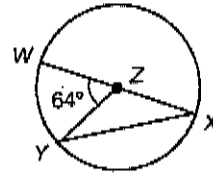


14. (Inv. 5) Draw a net for a rectangular prism.

15. (16) Determine the slope of the line passing through  $(2, 7)$  and  $(5, 4)$ .

16. (44) Given that  $\triangle ABC \sim \triangle QRS$ , prove algebraically that the ratio of their perimeters is  $1 : 4$  if the ratio of their corresponding sides is  $1 : 4$ .

17. (47) Name the inscribed angle shown in the circle below.



18. (45) Assign coordinates to the vertices of isosceles triangle  $PQR$  with a height of 3 from the base to the vertex.

19. (50) Find the geometric mean of 4 and 16.

20. (40) Find the perimeter of the composite figure below.

