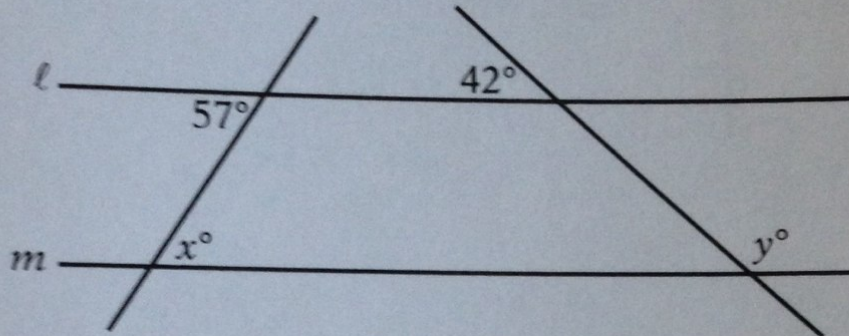


and its surface area is

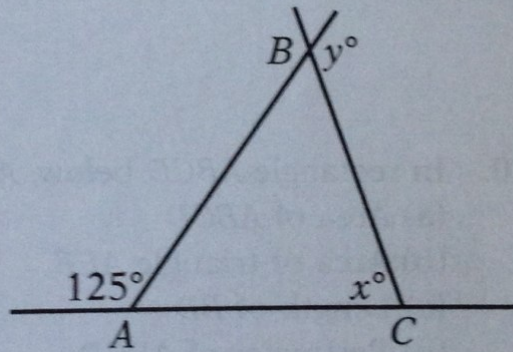
$$A = (2)(\pi)(3)^2 + (2)(\pi)(3)(6.5) = 57\pi$$

## GEOMETRY EXERCISES

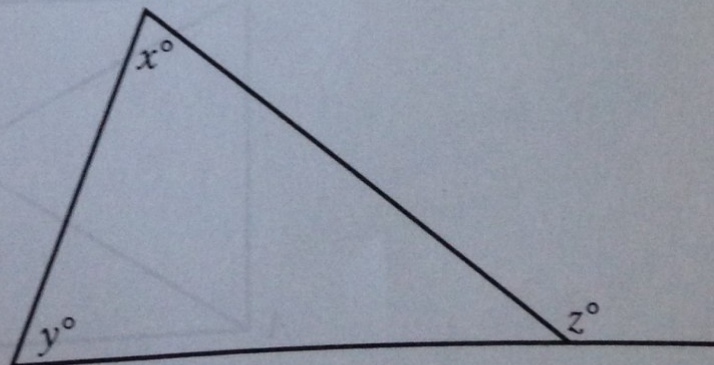
1. Lines  $l$  and  $m$  below are parallel. Find the values of  $x$  and  $y$ .



2. In the figure below,  $AC = BC$ . Find the values of  $x$  and  $y$ .

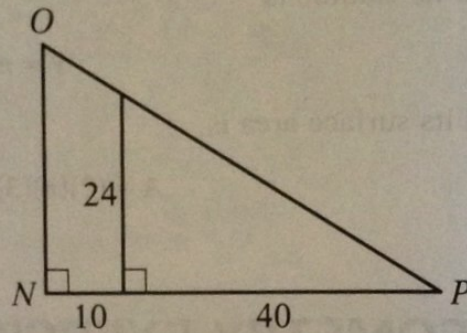


3. In the figure below, what is the relationship between  $x$ ,  $y$ , and  $z$ ?

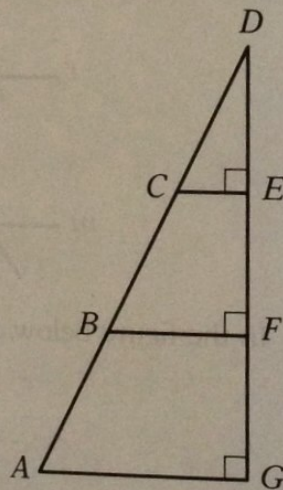




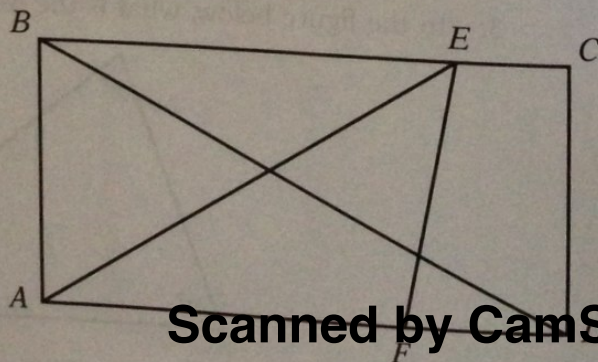
4. What is the sum of the measures of the interior angles of a decagon (10-sided polygon)?
5. If the decagon in exercise 4 is regular, what is the measure of each interior angle?
6. The lengths of two sides of an isosceles triangle are 15 and 22, respectively. What are the possible values of the perimeter?
7. Triangles  $PQR$  and  $XYZ$  are similar. If  $PQ = 6$ ,  $PR = 4$ , and  $XY = 9$ , what is the length of side  $XZ$ ?
8. What are the lengths of sides  $NO$  and  $OP$  in triangle  $NOP$  below?



9. In the figure below,  $AB = BC = CD$ . If the area of triangle  $CDE$  is 42, what is the area of triangle  $ADG$ ?

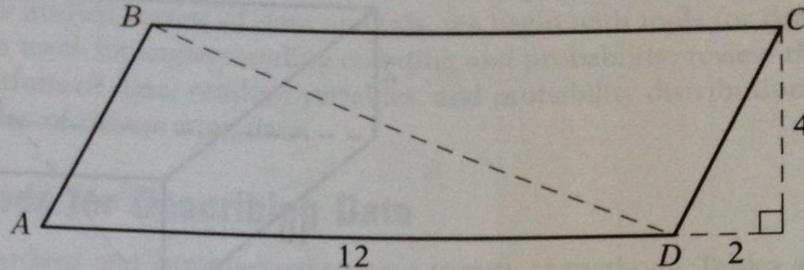


10. In rectangle  $ABCD$  below,  $AB = 5$ ,  $AF = 7$ , and  $FD = 3$ . Find the following.
  - (a) Area of  $ABCD$
  - (b) Area of triangle  $AEF$
  - (c) Length of  $BD$
  - (d) Perimeter of  $ABCD$

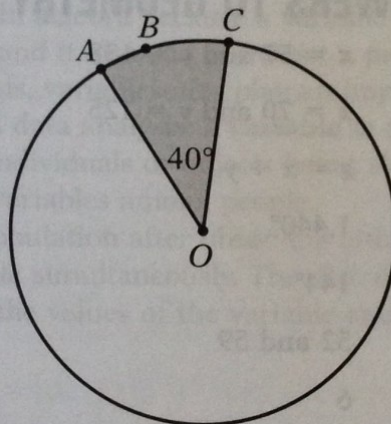




11. In parallelogram  $ABCD$  below, find the following.
- Area of  $ABCD$
  - Perimeter of  $ABCD$
  - Length of diagonal  $BD$



12. The circle with center  $O$  below has radius 4. Find the following.
- Circumference of the circle
  - Length of arc  $ABC$
  - Area of the shaded region



13. The figure below shows two concentric circles, each with center  $O$ . Given that the larger circle has radius 12 and the smaller circle has radius 7, find the following.
- Circumference of the larger circle
  - Area of the smaller circle
  - Area of the shaded region

