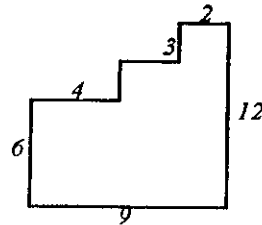
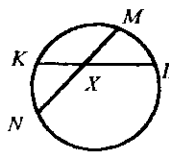


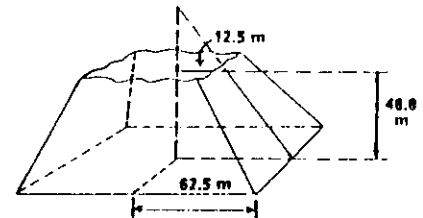


- Solve for  $x$ .  $x = \sqrt{x+2}$
- Let  $A$  = the number of sides of the regular polygon with degree measure of each interior angle of 165. Let  $B$  = the number of degrees of each interior angle of a regular pentagon. Let  $C$  = the number of diagonals of a regular hexagon, . Find  $\frac{A \cdot B}{C}$ .
- The notation  $[x]$  (read as the greatest integer of  $x$ ) represents the largest integer which does not exceed the value of  $x$ . If  $d$  is the distance between the points  $(4, -3)$  and  $(5, 4)$ , what is the value of  $[d]$ ?
- Assuming all interior angles are right angles, what is the area of the given figure?



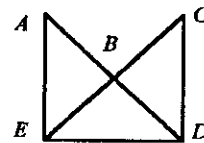
- In circle  $O$  above  $m\widehat{KM} = 5g + 128$ ,  $m\widehat{LN} = g + 2$ ,  $m\angle KXM = 7g + 1$ . What is the degree measure of  $\angle MXL$ ?

- An archaeologist can determine the original height of the pyramid, even though its top has been worn away. Find the original height of the pyramid to the right, given the indicated measurements.



- What is the least common multiple of the numbers 2156 and 4725?
- Let  $A$  = the degree of polynomial  $5m^2n + 3mn^2 - 4m^2n^2$ . Let  $B$  = the value of  $x$  in the equation  $5x - 3 = 4x + 5 - 2x - 4$ . Let  $C$  = the area of a right triangle with hypotenuse of length 26 and one leg of length 10. Find  $\frac{A}{B} + C$ .

- $\triangle AED$  and  $\triangle CDE$  are isosceles right triangles and  $AE = 5$ . What is the exact perimeter of  $\triangle EBD$ ?



- If the solutions of quadratic equation with leading coefficient of 1 are  $\frac{1+\sqrt{5}}{2}$  and  $\frac{1-\sqrt{5}}{2}$ , what is the quadratic equation?

- Given a hexagon  $ABCDEF$  with hexagon  $GHIJKL$  inscribed inside, where  $G, H, I, J, K, L$  are the midpoints of the sides of hexagon  $ABCDEF$ , what is the value of  $R$  if

$$R = \frac{\text{area of hexagon } ABCDEF}{\text{area of hexagon } GHIJKL} ?$$

- Let  $A$  be the degree measure of an angle whose supplement is four times the measure of its complement. Let  $B$  be the length of a diagonal of a cube with an edge of 4 cm long. Let  $C$  be the length of the altitude of a trapezoid with median of length 6 and area of 24. Find  $\frac{A \cdot B}{C}$ .

- Find the area of a square inscribed in a circle of radius 5.

- In  $\triangle RST$ ,  $m\angle T = 84^\circ$ ,  $\overleftrightarrow{RX}$  and  $\overleftrightarrow{SX}$  bisect the exterior angles at  $R$  and  $S$ . Find  $m\angle RXS$ .

- The lengths of three consecutive sides of a quadrilateral are 4, 17, and 10. Between what 2 numbers must the length of the fourth side lie?