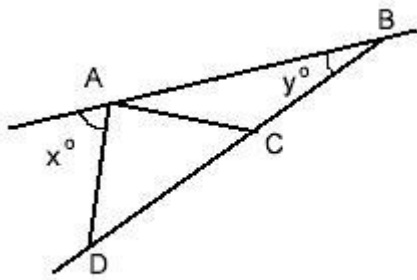


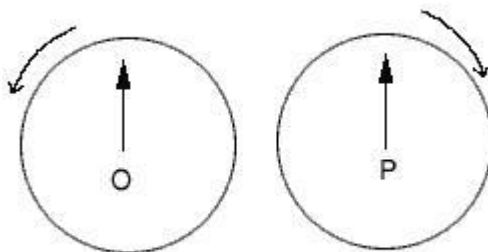
## 第二套

1. What is the sum of all the positive integer factors of 12 ?
2. The average IQ of 4 people is 110. If three people each have an IQ of 105, what is the IQ of the fourth person ?
3. Of 60 students in a class  $\frac{2}{3}$  are girls, and  $\frac{2}{5}$  of the class are taking music lessons. What is the maximum number of girls that are not taking music lessons?
4. If  $2^{n+1} = 8$ , what is the value of  $n$  ?



(figure not to scale)

5. In the figure above,  $AD = AC = CB$ .  
If the value of  $y$  is 28, what is the value of  $x$ ?
6. One gallon of fuel mixture contains antifreeze in the ratio of 5 parts fuel to one part antifreeze. To this is added half a gallon of mixture which is one third antifreeze and two thirds fuel. What is the ratio of fuel to antifreeze in the final mixture? (Grid your answer as a fraction: fuel/antifreeze)



7. Two dials O and P have pointers that start from the vertical position as shown. Pointer O rotates anticlockwise at a rate of 5 degrees per second and pointer P rotates clockwise at 9 degrees per second. How many complete revolutions will P have made when O completes 335 complete revolutions?
8. What is the total surface area of 2 identical cubes which together have a volume of 1458 units?
9.  $N \{12, 18, 2, 6\}$   
 $P \{1, 4, 2, 3\}$   
If  $n$  and  $p$  are to be selected at random from sets  $N$  and  $P$  respectively, what is the probability that  $n/2p$  will be a member of set  $P$ ?
10. If  $f(x) = (12 \diamond x)^{3/2}$ , and  $n = f(3)$ , what is the value of  $2n$ ?