第三套

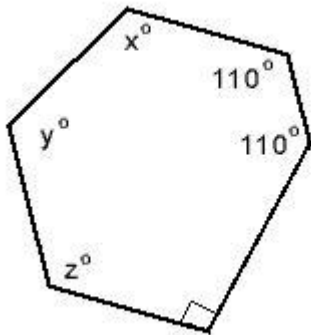**1.** In a sequence of numbers the first number is 3 and each number after the first is 2 more than 3 times the preceding number. What is the fourth term in the sequence?

2. If the average of 3 and x is 5, and the average of 5 and y is 7, what is the average of x and y?

3. A right circular cylinder has an volume of 81π. If the circumference of the base is 6π, what is the height?

4. Using the digits 1,2,5,9 exactly once in each number, what is the difference between the largest and the smallest number that can be formed?

5. How many numbers between 1 and 100 contain the digit 8?

6. If k is a positive integer, what is the smallest value for k to make 60k a perfect square?

7. What is the sum of x, y and z in the figure above?

8. The school library has 50 action adventure novels, 15 romances and 10 historical novels. Julie wants to take one of each type for her sick cousin to read. How many different choices of three books are available to her?

9. The fraction x/y is altered by decreasing x by 25 per cent and increasing y by 25 percent. The new fraction is what percent less than the original?

10. A CD player chooses a track at random from three discs each with 20 racks. What is the probability that it chooses track 2 of disc 2?