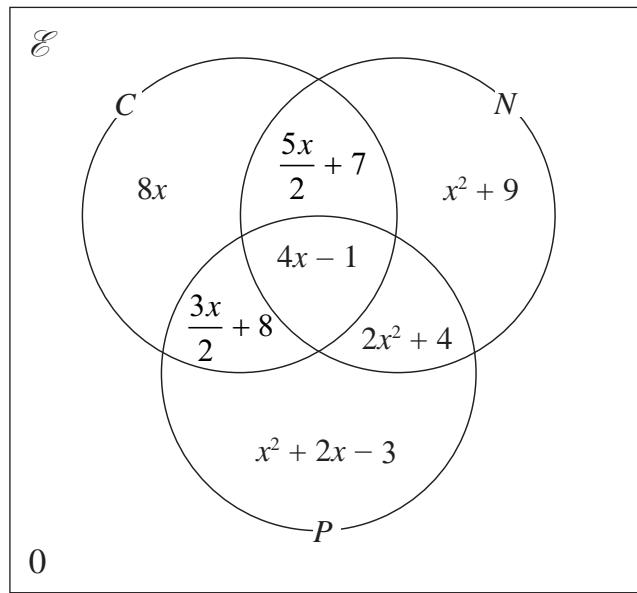


- 3 The principal of a college wishes to introduce three new evening classes.

The classes are Cake decorating ( $C$ ), Needlework ( $N$ ) and Photography ( $P$ ).

In a survey, 160 people who attend evening classes at the college were asked which of these new evening classes they would like to attend.

Information about the results of the survey is shown in the Venn diagram. The expression in terms of  $x$ , where  $x$  is a positive integer, in each subset represents the number of people in that subset.



(a) (i) Show that  $2x^2 + 9x - 68 = 0$

(ii) Hence find the value of  $x$ .

(4)

One of the people surveyed is selected at random.

Given that this person would like to attend Photography,

- (b) calculate the exact value of the probability that this person would also like to attend Cake decorating but not Needlework.

(2)



### **Question 3 continued**

**DO NOT WRITE IN THIS AREA**

**DO NOT WRITE IN THIS AREA**



**(Total for Question 3 is 6 marks)**