

# 1.2 Set Notation & Venn Diagrams

## Question Paper

Course	CIE IGCSE Maths
Section	1. Number
Topic	1.2 Set Notation & Venn Diagrams
Difficulty	Hard

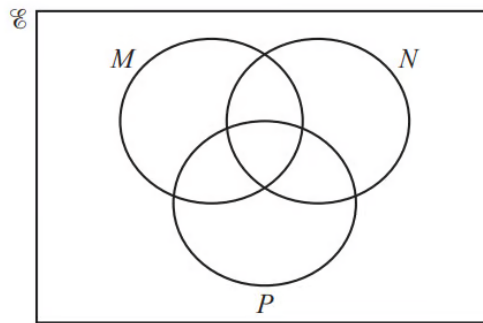
**Time allowed:** 20

**Score:** /15

**Percentage:** /100

## Question 1

In this Venn diagram, shade the region  $M' \cup N \cup P$ .

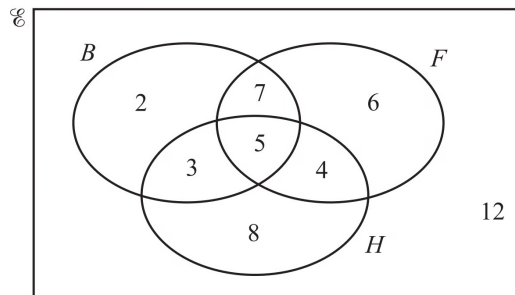


[1]

[1 mark]

## Question 2

This Venn diagram shows information about the number of students who play basketball ( $B$ ), football ( $F$ ) and hockey ( $H$ ).



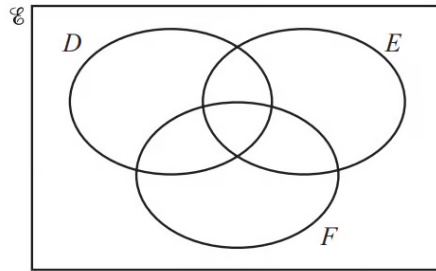
Find  $n((B \cup F) \cap H')$ .

[1]

[1 mark]

### Question 3

Shade the region  $(D \cap E)' \cap F$  in the Venn diagram below.



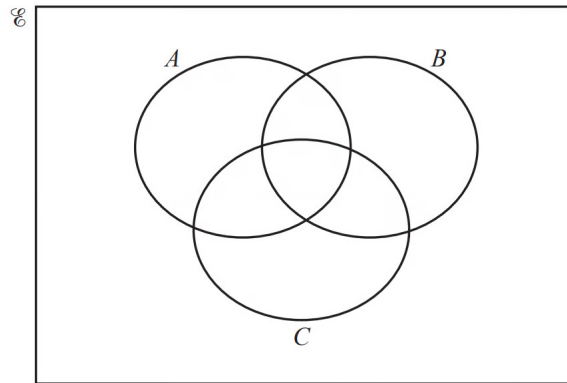
$$(D \cap E)' \cap F.$$

[1]

[1 mark]

### Question 4

In this Venn diagram, shade the region  $(A \cup B)' \cap C$ .

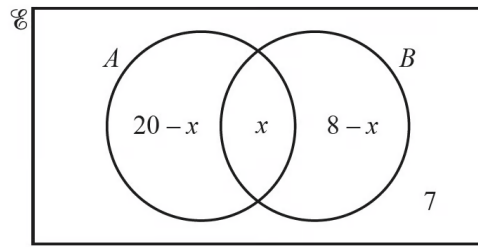


[1]

[1 mark]

## Question 5

The Venn diagram shows information about the number of elements in sets  $A$ ,  $B$  and  $\mathcal{E}$ .



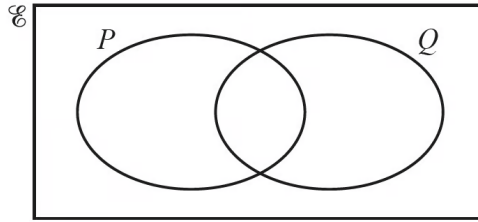
$$n(A \cup B) = 23$$

Find the value of  $x$ .

$$x = \dots\dots\dots [3]$$

**[3 marks]**

## Question 6



$n(E) = 20$ ,  $n(P) = 10$ ,  $n(Q) = 13$  and  $n(P \cup Q)' = 5$ .

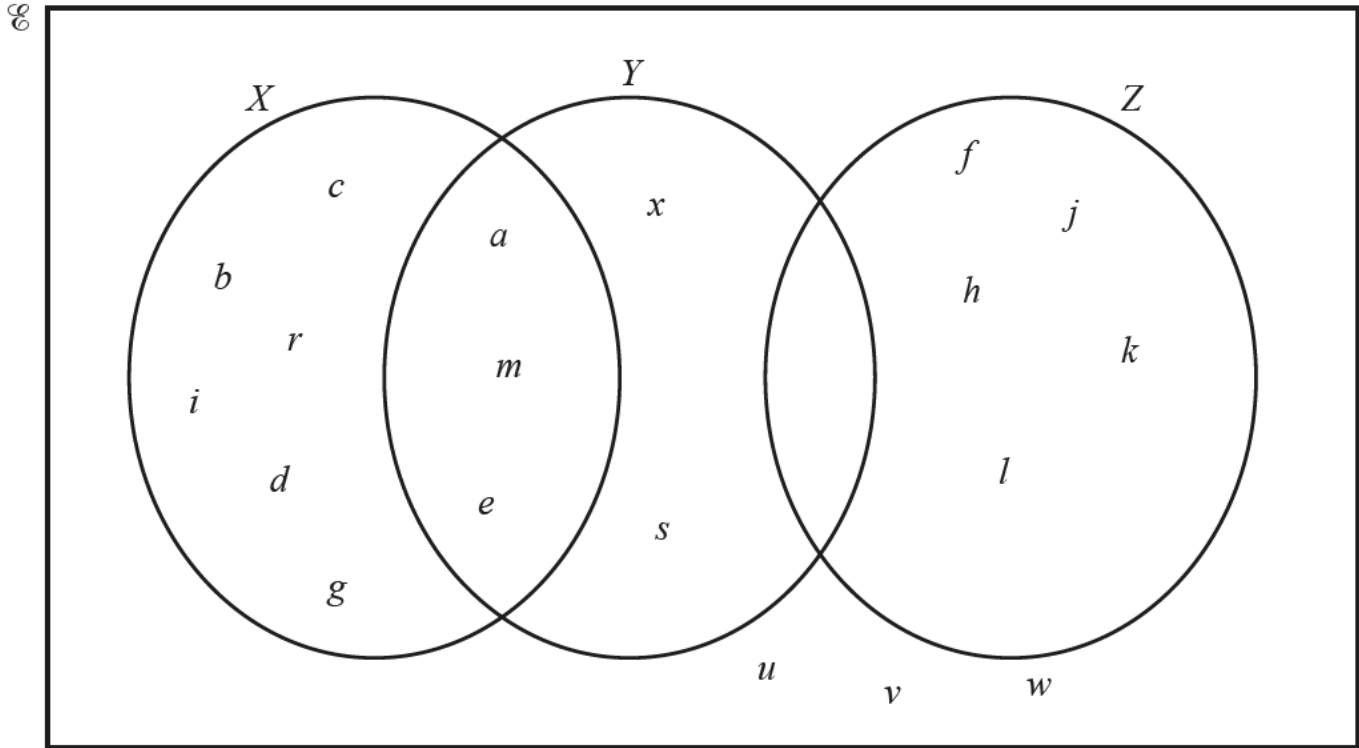
Work out  $n(P \cap Q)$ .

You may use the Venn diagram to help you.

$n(P \cap Q) = \dots\dots\dots [2]$

**[2 marks]**

### Question 7a



List the elements of  $(X \cup Y \cup Z)'$ .

[1]

[1 mark]

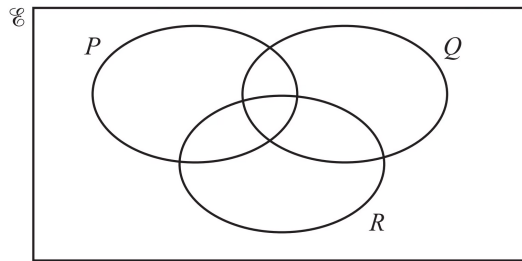
### Question 7b

Find  $n(X' \cap Z)$ .

[1]

[1 mark]

### Question 8



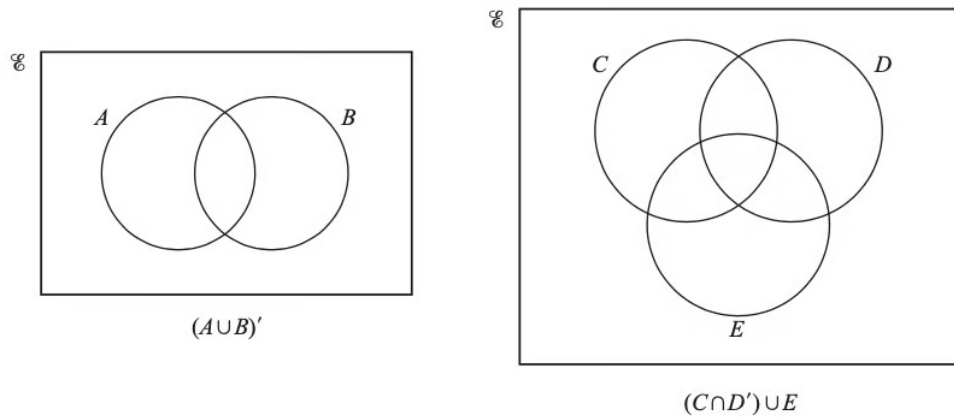
Shade the region  $P \cup (Q \cap R)'$ .

[1]

[1 mark]

### Question 9

In each Venn diagram, shade the required region.

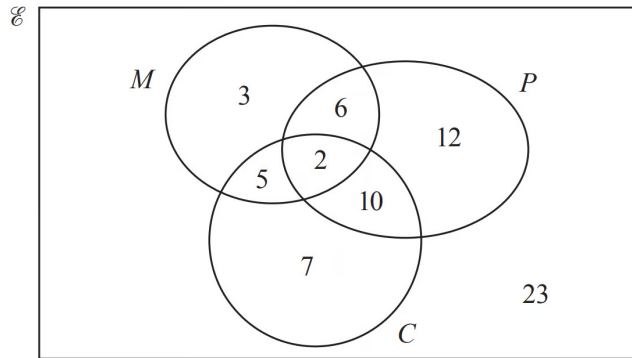


[2]

[2 marks]

### Question 10

The Venn diagram below shows information about the number of gardeners who grow melons ( $M$ ), potatoes ( $P$ ) and carrots ( $C$ ).



Find  $n((M \cap P) \cup C')$ .

[1]

[1 mark]