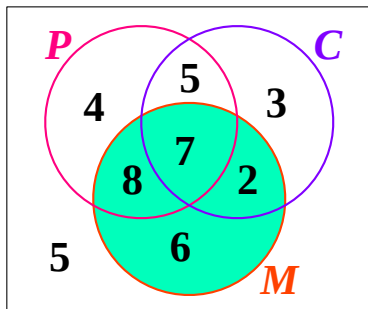


6.3 Answers

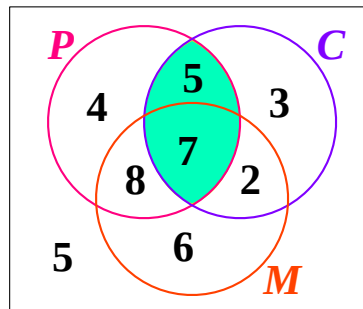
6.3.1 Solution to 6.1 Example (Teaching Video)

(i)



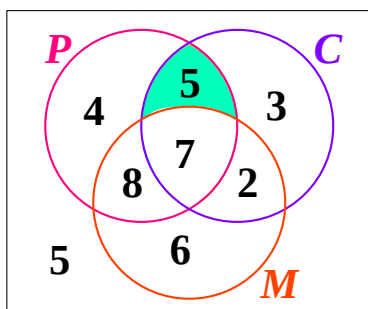
$$n(M) = 23$$

(ii)



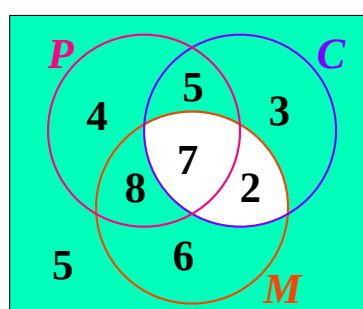
$$n(P \cap C) = 12$$

(iii)



$$n(P \cap C \cap M') = 5$$

(iv)



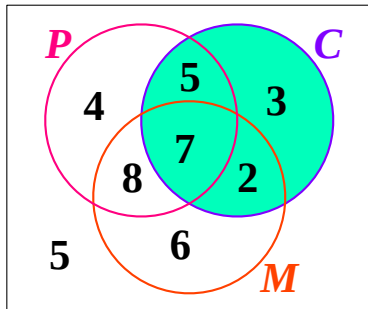
$$n(C \cap M)' = 31$$

[8 marks]

6.3.2 Solution to 6.2 Exercise

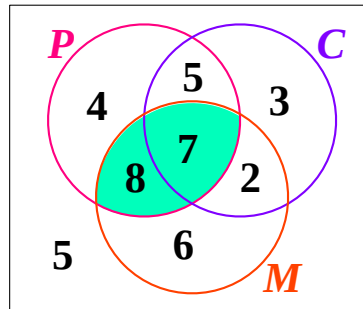
Answer 1

(i)



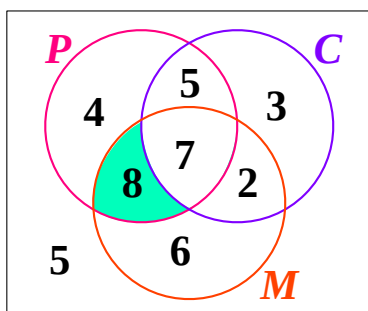
$$n(C) = 17$$

(ii)



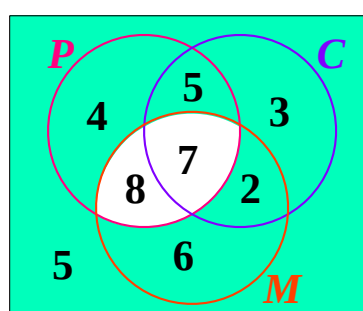
$$n(P \cap M) = 15$$

(iii)



$$n(P \cap M \cap C') = 8$$

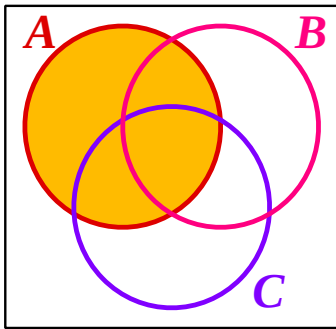
(iv)



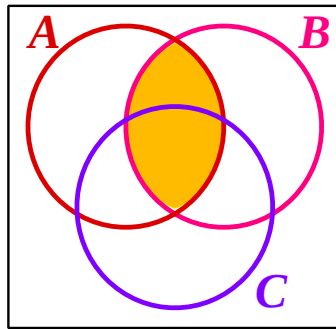
$$n(P \cap M)' = 25$$

[8 marks]

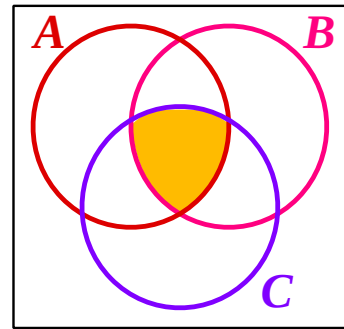
Answer 2



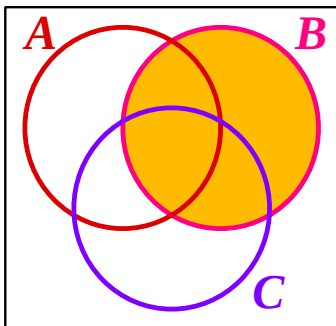
Shade : A



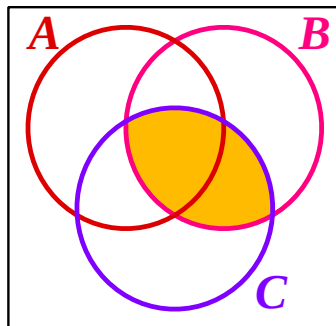
Shade : $A \cap B$



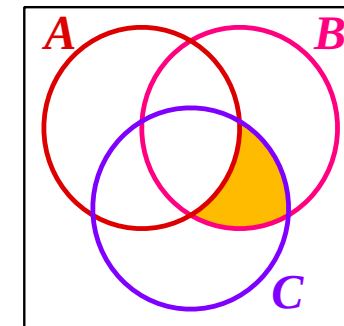
Shade : $A \cap B \cap C$



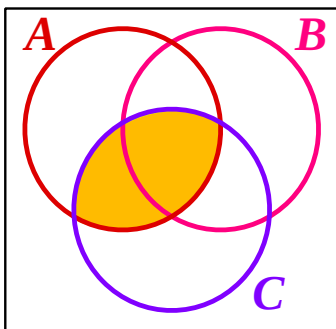
Shade : B



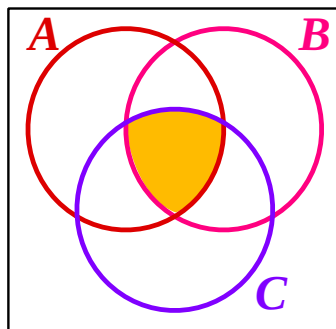
Shade : $B \cap C$



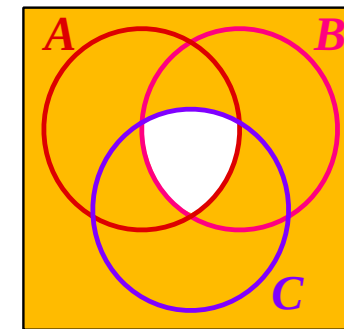
Shade : $B \cap C \cap A'$



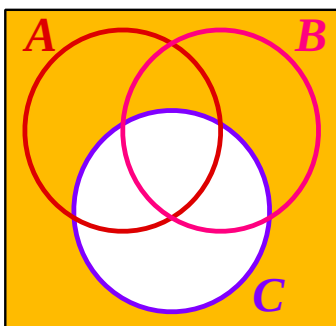
Shade : $A \cap C$



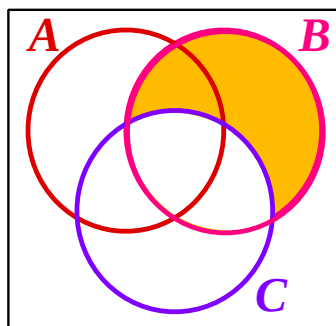
Shade : $A \cap C \cap B$



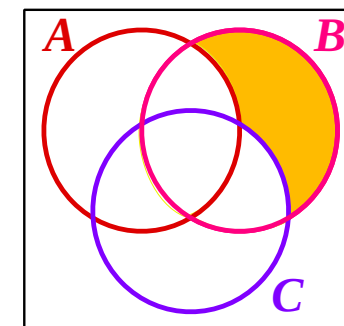
Shade : $(A \cap C \cap B)'$



Shade : C'



Shade : $C' \cap B$



Shade : $C' \cap B \cap A'$

[12 marks]

Answer 3

(a) (i) $T = \{ 1, 3, 6, 10, 15 \}$

[1 mark]

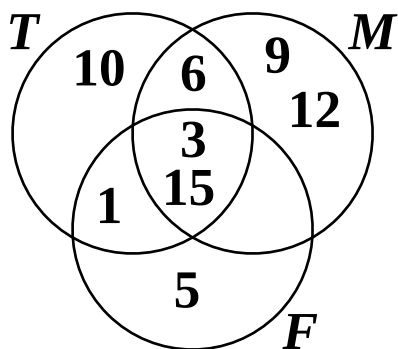
(ii) $M = \{ 3, 6, 9, 12, 15 \}$

[1 mark]

(iii) $F = \{ 1, 3, 5, 15 \}$

[1 mark]

(b)



[5 marks]

(c) (i) $T \cap M = \{ 3, 6, 15 \}$

[1 mark]

(ii) $T \cap F = \{ 1, 3, 15 \}$

[1 mark]

(iii) $M \cap F = \{ 3, 15 \}$

[1 mark]

(iv) $T \cap M \cap F = \{ 3, 15 \}$

[1 mark]

(v) $T \cap M \cap F' = \{ 6 \}$

[1 mark]

(vi) $T \cap M' \cap F = \{ 1 \}$

[1 mark]

(vii) $T' \cap M \cap F = \emptyset$ is observing the region that contains no elements on the Venn Diagram

[1 mark]