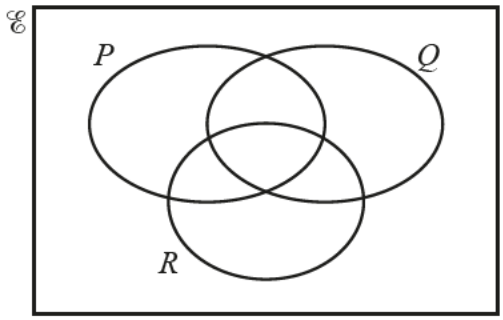
Set language and notation – 2020 O Level Math D

1. Nov/2020/Paper_11/No.14

(a)



In the Venn diagram, shade the subset $(P \cup Q) \cap R'$. [1]

(b) In a group of 42 people,

- 30 people speak Spanish
- 20 people speak French.

(i) Find the smallest possible number of people who speak both Spanish and French.

..... [1]

(ii) Find the largest possible number of people who speak neither Spanish nor French.

..... [1]

2. Nov/2020/Paper_12/No.13

(a) $P = \{ 1, 2, 3, 4, 5, 6, 7, 8 \}$

$Q = \{ 1, 3, 5, 7, 9, 11 \}$

Find $\mathrm{n}(P \cup Q)$.

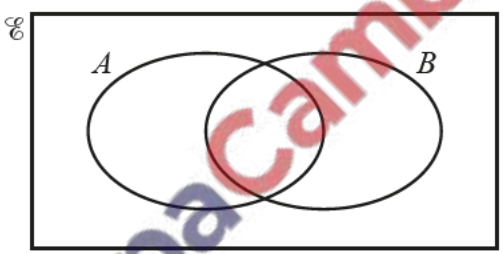
..... [1]

(b) $p \in A \cap B$

$q \in (A \cup B)'$

$r \in A \cap B'$

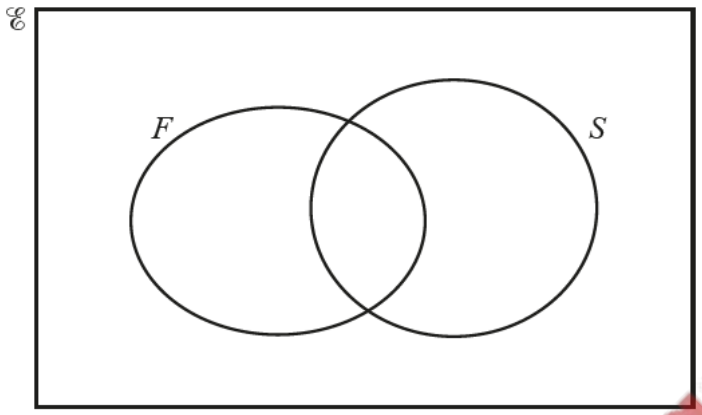
On the Venn diagram below, write each of the letters p, q and r in its appropriate subset.



[3]

3. June/2020/Paper_11/No.15

(a) $\mathscr{E} = \{ x : x \text{ is an integer and } 1 \leqslant x \leqslant 10 \}$
$F = \{ x : x \text{ is a factor of } 24 \}$
$S = \{ x : x \text{ is a square number} \}$

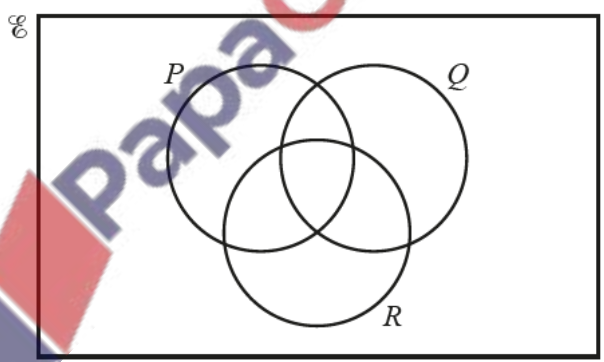


(i) Complete the Venn diagram. [2]

(ii) Find $n(F \cup S)'$.

..... [1]

(b) In the Venn diagram, shade the region represented by $P \cap Q \cap R'$.

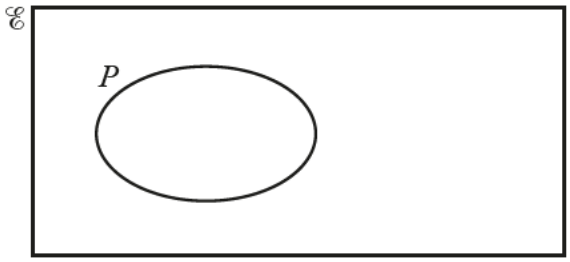


[1]

4. June/2020/Paper_12/No.16

$Q \subset P$
$P \cap R = \varnothing$

Complete the Venn diagram to show sets Q and R.



[2]