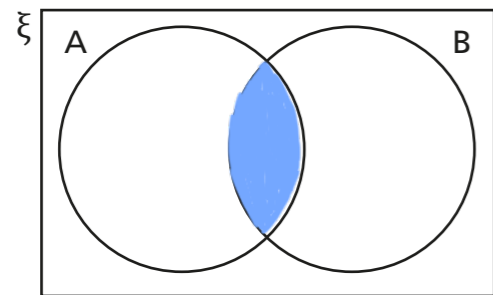


# Interpret and create Venn diagrams

1 The Venn diagram shows the intersection of sets A and B.



$\xi$  is the universal set.

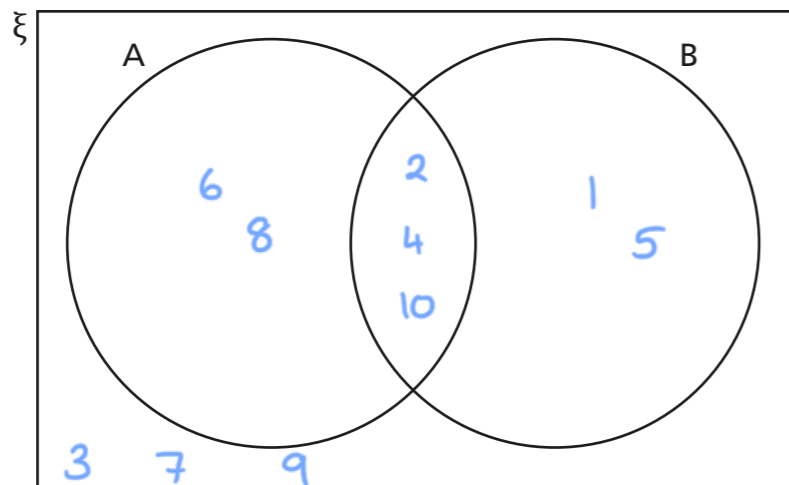
$\xi$  is the universal set.

- a) Shade the part of the diagram where you would put elements of both set A and set B.
- b) Explain where you would put elements that are in the universal set but are not members of set A or set B.

2

$\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$   
 $A = \{\text{even numbers}\}$   
 $B = \{\text{factors of 20}\}$

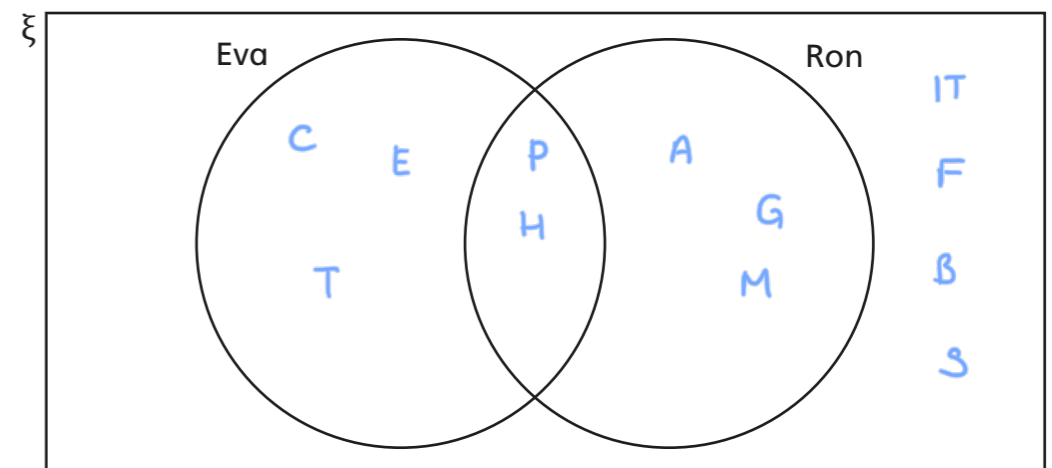
- a) List the elements of set A. 2, 4, 6, 8, 10
- b) List the elements of set B. 1, 2, 4, 5, 10
- c) List the elements that are in both set A and set B. 2, 4, 10
- d) Show this information on the Venn diagram.



3 Students in Year 9 can choose from these subjects for GCSE.

Music (M)	PE (P)	Computing (C)	History (H)
Geography (G)	Art (A)	Technology (IT)	Business (B)
Engineering (E)	Textiles (T)	French (F)	Spanish (S)

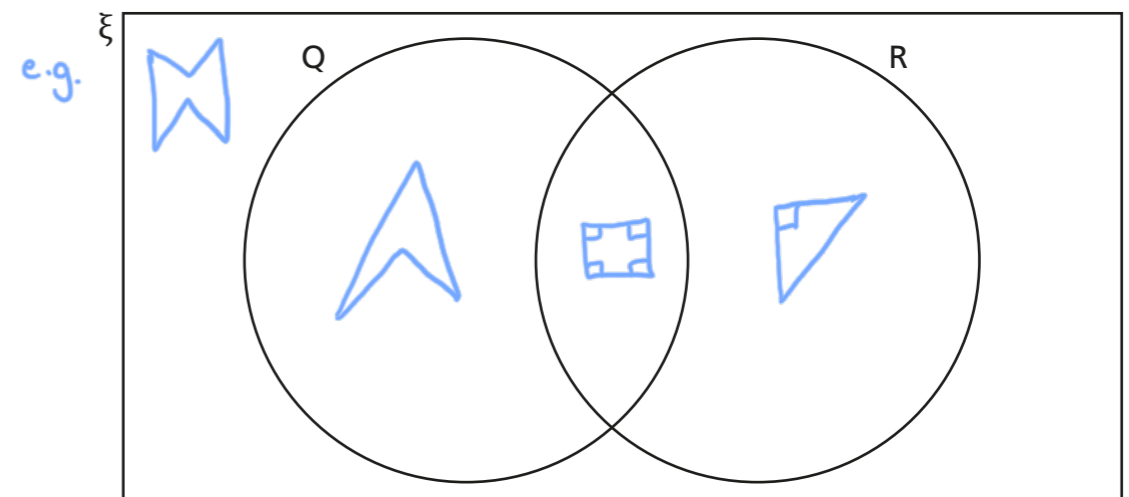
Eva chooses PE, Computing, Engineering, History and Textiles.  
 Ron chooses PE, Art, Geography, History and Music.  
 Represent this information in the Venn diagram.



4

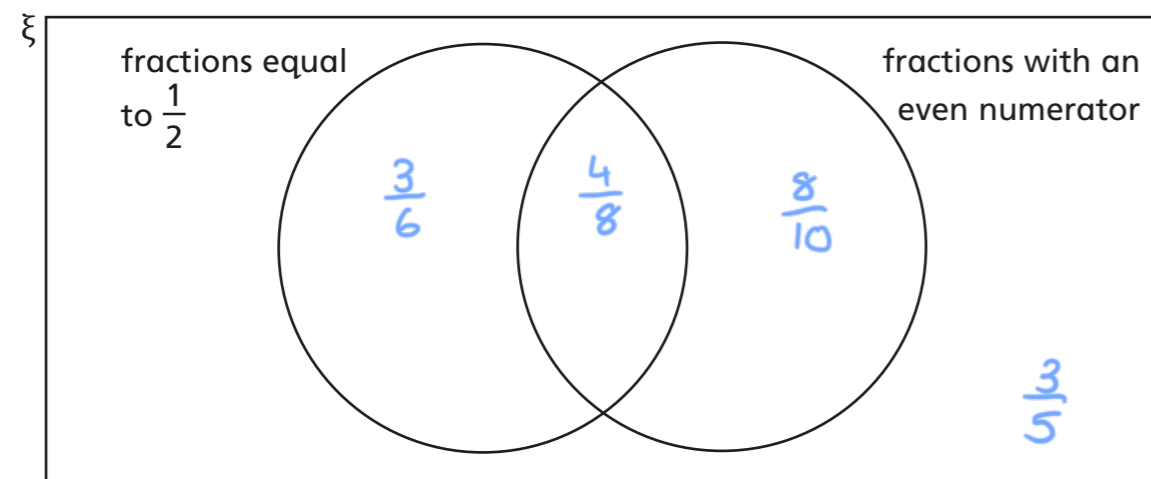
$\xi = \{\text{2D shapes}\}$   
 $Q = \{\text{quadrilaterals}\}$  and  $R = \{\text{shapes with a right angle}\}$

Draw four shapes, each one in a different section of the Venn diagram.



- 5 Esther and Nijah are writing fractions in a Venn diagram.

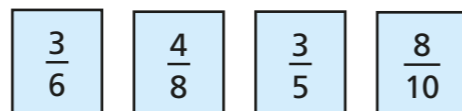
The universal set  $\xi$  is fractions between 0 and 1



- b) Explain where you would place  $\frac{6}{12}$

*In the overlapping bit because  $\frac{6}{12} = \frac{1}{2}$  and 6 is even.*

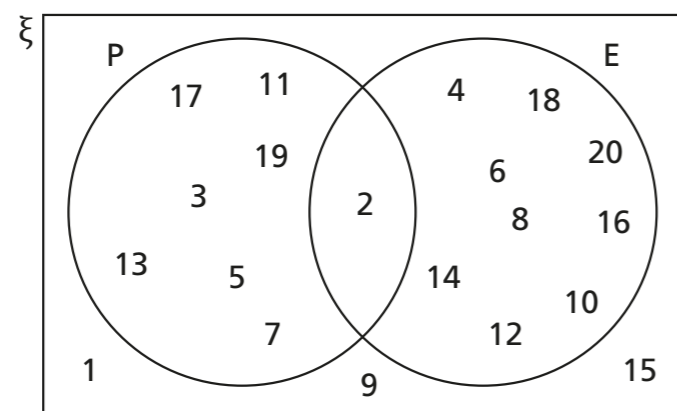
- a) Write the fractions in the Venn diagram.



- c) Explain why  $\frac{5}{2}$  would not be placed in the Venn diagram at all.

*It is not between 0 and 1*

- 6 The numbers from 1 to 20 have been put in a Venn diagram.



- a) Describe what you think set P and set E represent.

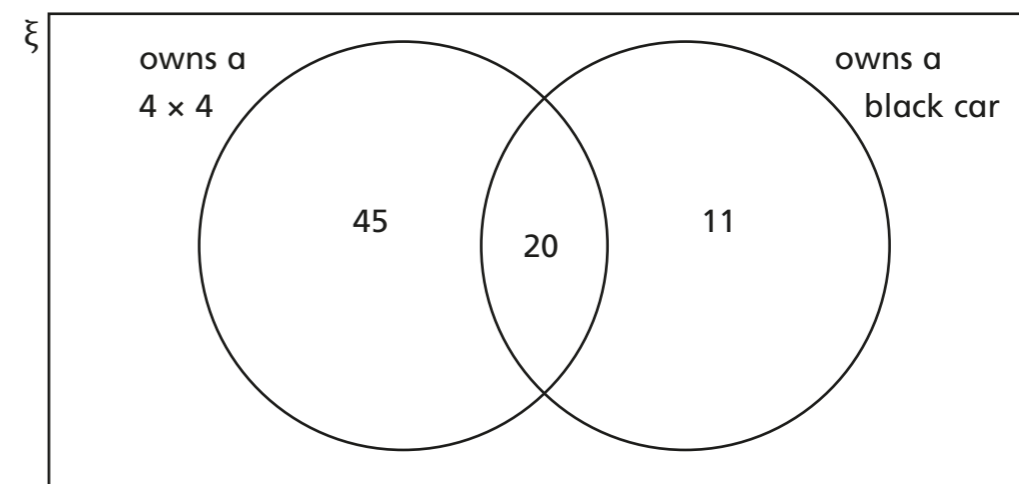
*P: Prime E: Even*

- b) Do you think any other numbers will be in both sets?

Talk about it with a partner.

- 7 80 people completed an online survey about the car they own.

The Venn diagram shows some information from the survey.



- a) How many people own a 4 x 4?

*65*

- b) How many people own a black car?

*31*

- c) How many people own a black 4 x 4?

*20*

- d) How many people own a car that is not black or a 4 x 4?

*4*

- 8 120 students were asked what sports they play.

- 72 students play football.
- 59 students play netball.
- 30 students play both.

Complete the Venn diagram to show this information.

