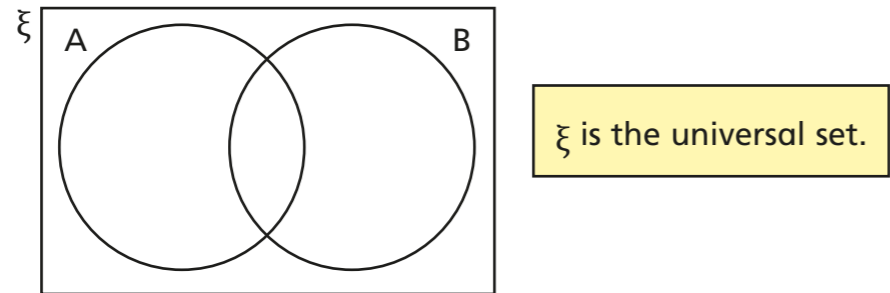


# Interpret and create Venn diagrams

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



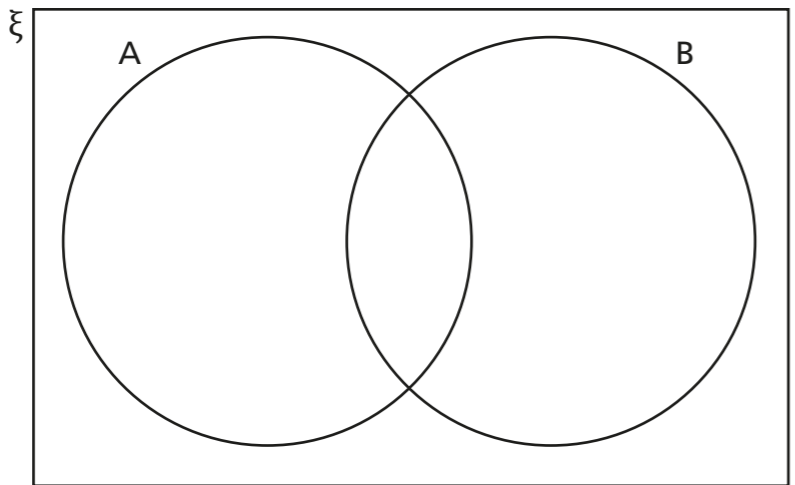
$\xi$  is the universal set.

- 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

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

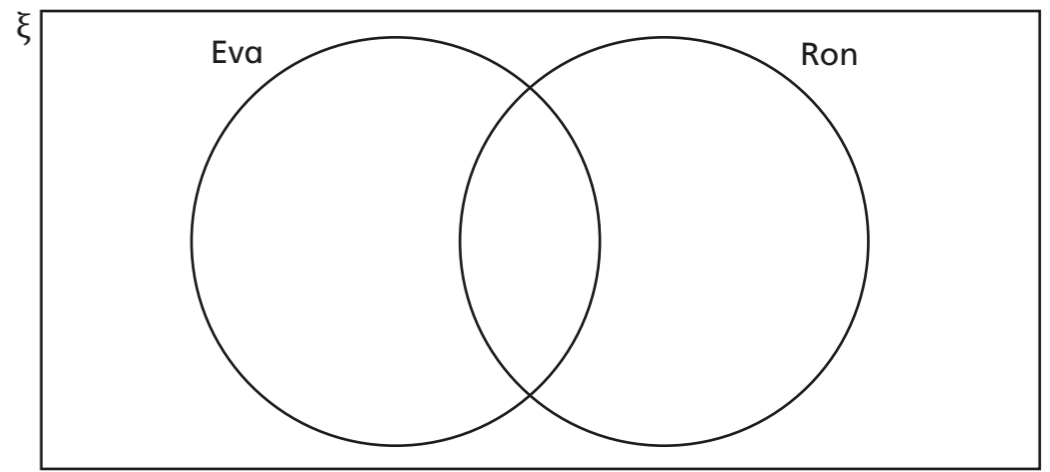
- a) List the elements of set A. \_\_\_\_\_
- b) List the elements of set B. \_\_\_\_\_
- c) List the elements that are in both set A and set B. \_\_\_\_\_
- d) Show this information on the Venn diagram.



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)  |

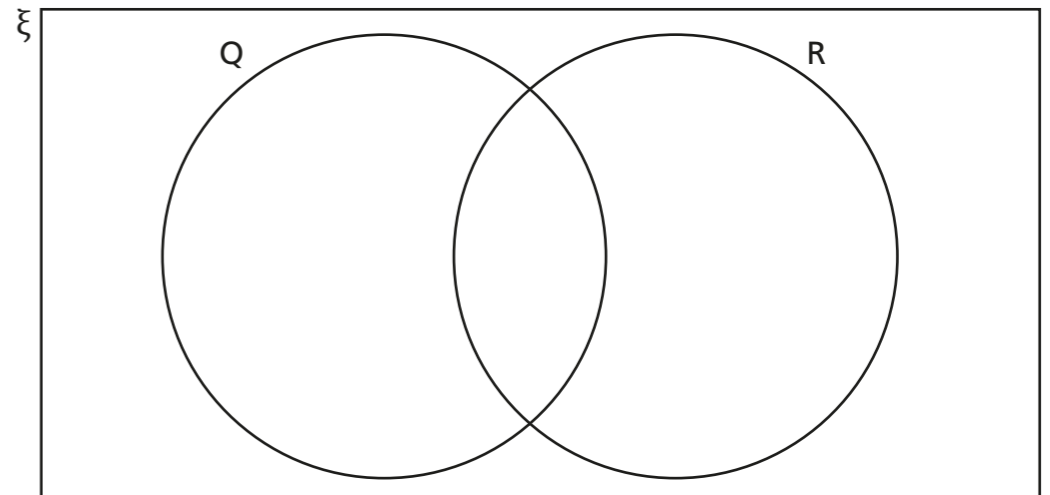
Eva chooses PE, Computing, Engineering, History and Textiles.  
 Ron chooses PE, Art, Geography, History and Music.  
 Represent this information in the Venn diagram.



4

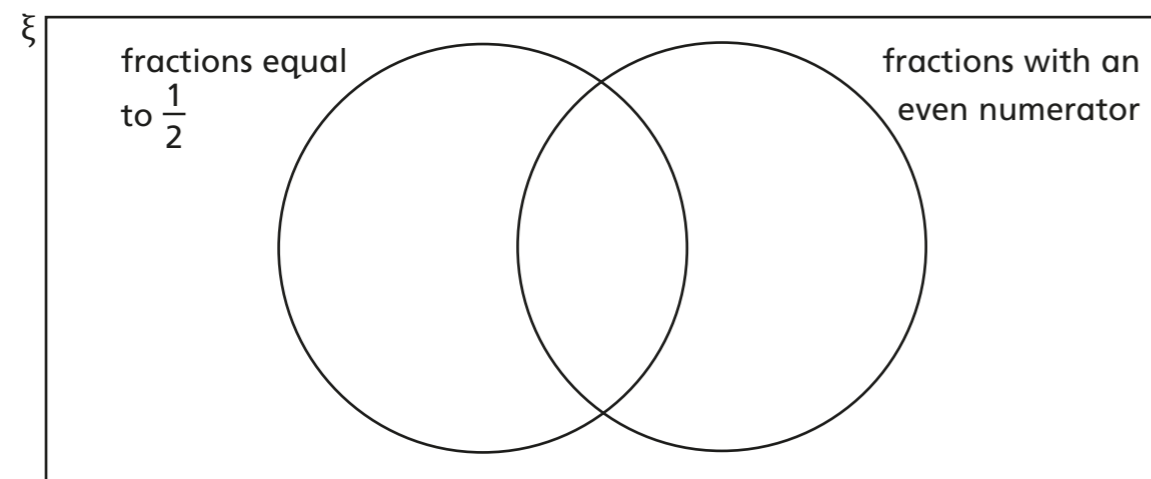
$\xi = \{\text{2D shapes}\}$   
 $Q = \{\text{quadrilaterals}\}$  and  $R = \{\text{shapes with a right angle}\}$

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



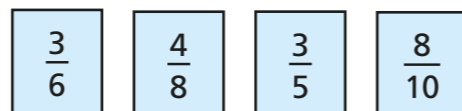
- b) Explain where you would place  $\frac{6}{12}$

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- a) Write the fractions in the Venn diagram.



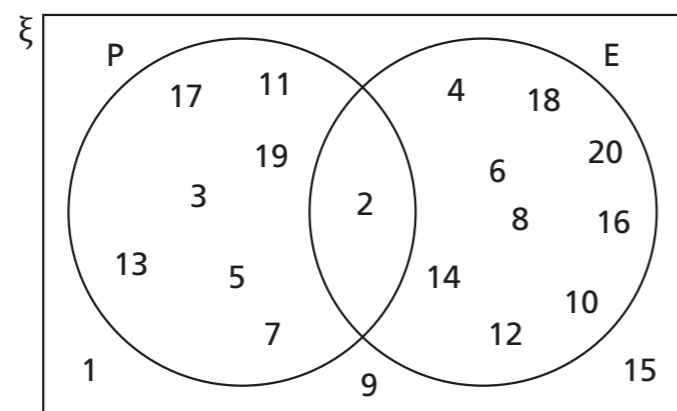
- c) Explain why  $\frac{5}{2}$  would not be placed in the Venn diagram at all.

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



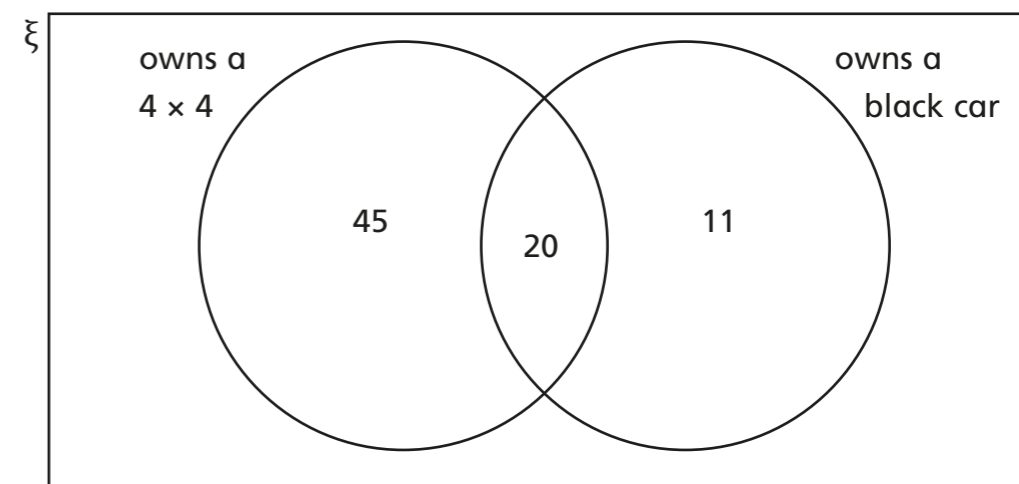
- a) Describe what you think set P and set E represent.

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- 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?

- b) How many people own a black car?

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

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

