

Name: _____

Activity 1: DO YOU HAVE THAT ON DVD?

There are 37 DVDs in my collection. 12 of them have British actors in them. 18 of them are rated R. I also have a number of art films, 7 of which are rated R. Of the R-rated ones, 11 do not have British actors. Of the DVDs with British actors, 5 are art films. I have 2 DVDs that have British actors in them and are R-rated art films. In my collection, 9 of my DVDs are art films that do not have British actors.

Consider the following sets:

$R = \{\text{R-rated DVDs}\}$

$A = \{\text{DVDs that are art films}\}$

$B = \{\text{DVDs with British actors in them}\}$

1. (6pts) Use the above information to draw a Venn diagram of the sets, complete with the number of elements in each part of the diagram.
2. (2pts) (4pts) **Shade in** the part of the Venn diagram representing the set $(R \cup A) \cap B$
3. (3pts) What is the number of DVDs that have either British actors or are rated R but **do not** happen to be art films?
4. (3pts) What is a description in words of the set $(A \cap B) \cup R$?