For each problem, make a Venn diagram, and show how you found the solution. Please work this assignment on a separate sheet of paper where you have room to show your work.

1. There are 14 people in the room.
8 are wearing something red
9 are wearing something blue
4 are not wearing anything red or blue
How many are wearing both something red and something blue?

2. 18 people will be eating pizza
10 people do not like mushrooms
12 people like pepperoni
3 people don't like either mushrooms or pepperoni
How many people like both mushrooms and pepperoni?

3. Three popular courses at MacArthur Junior High are geography, art, and science. A review of the schedules of 200 students showed that:

70 students have geography
80 students have science
60 students have art
35 students have geography and science
33 have geography and art
31 have science and art
15 have geography, science, and art

How many of the 200students have
none of these courses?

4. Ms Geometry prepared a set of 26 polygons for her class:
11 polygons have 4 or fewer sides
11 polygons are convex
12 polygons have line symmetry
7 polygons are convex, and are not symmetric
Of the polygons that are both convex and symmetric, the same number have 4 or less sides as have more than 4 sides.
5 polygons are convex and have 4 or fewer sides
6 polygons are symmetric and have 4 or fewer sides
How many polygons have more than 4 sides, and are not convex and are not symmetric?