More problem solving with Venn diagrams

1. The drill team is selling 18 different kinds of things as a fund-raiser.
10 of the things are kinds of food.
12 of the things cost more than $5 each.
How many food items cost more than $5? Find an exact $5 \in$ answer if it exists, and if not, tell the smallest and largest numbers that are possible.

2. 20 students from went on a field trip.
12 students were girls.
15 students brought a sack lunch.
How many girls brought a sack lunch?
Can you tell exactly?
What is the most number that could have brought a sack lunch?
What is the smallest number that could have brought a sack lunch?

3. There are 29 pens in my drawer
Only one of my pens is an erasable marker, and it is a yellow highlighter.
1/4 of my erasable pens are black.
I have 9 black pens, and my favorites are the 3 that are erasable.
I have 2 black markers
20 of my pens are not markers
How many of my pens are not erasable, not black and not markers?

4. Ms Geometry prepared a set of 24 polygons for her class:

- 8 polygons are triangles
- 8 polygons have parallel sides
- 13 polygons have line symmetry
- No triangles have parallel sides
- Of the polygons that have parallel sides, the same number have line symmetry as do not have line symmetry
- 3 triangles have line symmetry

How many polygons are not triangles, not symmetric and do not have parallel sides?