RANDOM SAMPLING - WORD PROBLEMS

ANSWERS

1. The local movie theater wants to know what types of films they should show for this summer's Youth Film Festival. There are 6 different schools in the area with a total of 7,410 students. Since there are too many students to survey they decide to do a random sample at each school. The results are shown below.

School	Action	Comedy	Horror	Romance	Thriller	Total
1	32	24	16	10	14	96
2	20	28	10	4	18	80
3	22	16	32	8	4	82
4	12	20	16	18	16	82
5	24	18	14	12	12	80
6	26	22	18	8	4	78
Total	**136**	**128**	**106**	**60**	**68**	498

A. Based on these results, approximately what percent of the total population like action films?

about 27%

B. About how many students in the total population like romance and thriller films combined?

about 1,905 students

C. If 724 students showed up for an action film, about how many students would show up for a thriller?

about 362 students

2. The small town of Turner Hill has 4,457 households. The local government is debating on whether or not a new school is needed. In a random sample, 163 out of 255 households have at least one child under the age of 5 years old.

A. Approximately how many households in the entire town have at least one child under 5 years old?

about 2,849 households

B. Should the local government build another school? Why or why not?
Yes, there are a lot of new, young children in the community or No, the sample might be too small and they need more data.

3. The librarian wants to know if the students feel that the library has sufficient resources and material. In a random sample, 24 out of 60 students tell her that the library is well equipped and the rest say it is not. The school has a total population of 1,323 students.

A. About how many students in the school feel the library does not have enough resources and material?

about 794 students

B. Do you think this is a valid sample and can it be used to make proper inferences? Why or why not?
No, the sample is small and it could be considered bias since they tell her personally rather than anonymously.