

# Exercises — Statistical concepts

1. *Colleges That Change Lives* includes the following Northeastern colleges.

College	number of students	tuition and fees	average SAT score
Marlboro College	348	\$35,980	1220
Goucher College	1,350	\$36,225	1180
Juniata College	1,449	\$35,220	1177

- (a) Among the 3,147 students, what is the median cost for tuition and fees?  
 (b) Among the 3,147 students, what is the average SAT score?

2. 5.5 million people voted in the Swedish parliamentary elections of 2006. The outcome was as follows.

Party		Percentage of votes	Position on left-to-right political scale
v	socialist	6%	-4
mp	green	5%	-3
s	social democratic	35%	-1
c	center liberal	8%	1
fp	liberal	8%	2
kd	Christian conservative	7%	3
m	consevative	26%	4

- (a) Where was the mean vote located on the political scale?  
 (b) Where was the median vote located on the political scale?  
 (c) Where was the mode vote located on the political scale?  
 (d) Among voters who voted for c, fp, kd or m, what was the median vote?  
 (e) A coalition was formed by c, fp, kd and m. What was the range on the political scale of this coalition?  
 (f) What was the standard deviation on the political scale among all voters who voted for c, fp, kd or m?  
 (g) The governing coalition before the elections was v, mp and s. What was the range on the political scale of this coalition?  
 (h) In the 2006 elections, what was the standard deviation on the political scale among all voters who voted for v, mp or s?