

For problems 1-3, find the mean, median and use each of the graphical representations for data. Use each representation only once.

1. Consider the following data:

61, 67, 100, 98, 90, 81, 98, 89, 83, 88, 87
 61, 67, 81, 83, 87, 88, 89, 90, 98, 98, 100

a) Find the mean b) Find the median

85.64 88

c) Represent the data using one a DOT PLOT, BOX PLOT or HISTOGRAM. Circle your choice.

60-69	2
70-79	0
80-89	5
90-99	3
100+	1

2. Consider the following data:

2, 4, 6, 1, 2, 3, 4, 1, 2, 3, 3, 2, 1, 2, 2, 4
 1, 1, 1, 2, 2, 2, 2, 2, 2, 3, 3, 3, 4, 4, 4, 6

a) Find the mean b) Find the median

2.63 $\frac{2+2}{2} = \frac{4}{2} = 2$

c) Represent the data using one a DOT PLOT BOX PLOT or HISTOGRAM. Circle your choice.

3. Consider the following data:

13, 64, 73, 61, 80, 96, 39, 73, 69, 96, 70, 15, 73, 57
 13, 15, 39, 57, 61, 64, 69, 70, 73, 73, 73, 80, 96, 96

a) Find the mean b) Find the median

62.79 $\frac{69+70}{2} = \frac{139}{2} = 69.5$

c) Represent the data using one a DOT PLOT, BOX PLOT or HISTOGRAM. Circle your choice.

Min:	13
LQ:	57
Median:	69.5
UQ:	73
Max:	96

Simplify.

4. x^2x^7

x^9

5. $(x^4y^3)^5$

$x^{20}y^{15}$

6. $6x^57y^9$

$42x^5y^9$

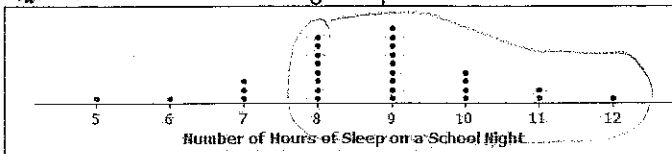
7. $(6x^8y^4)^3$

$216x^{24}y^{12}$

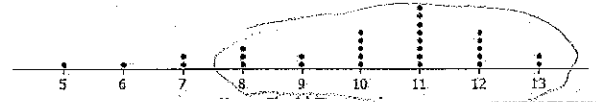
8. $(xy)^3(x^5y^2)^4$

$x^{23}y^{11}$

9. Consider the following dot plots.



Non-School Night



a) How many students get 8 or more hours of sleep?

School Night: 24 students
Non-School Night: 25 students

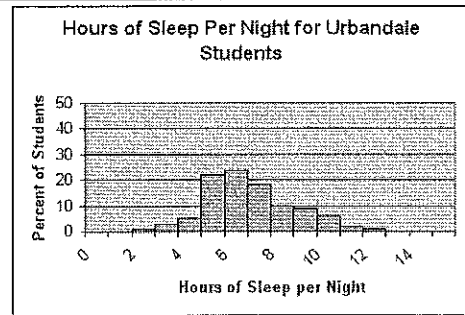
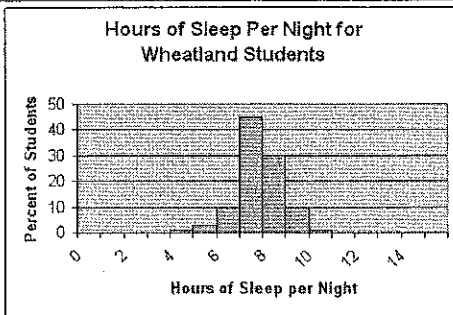
b) How many hours of sleep describes the center of the data?

School Night: 9 hours
Non-School Night: 11 hours

c) When do students sleep longer? School nights or non-school nights? Explain using the dot plot data.

Non-School nights because more students get 8 hours or more of sleep and they have many students getting 11 hours of sleep!

10. Consider the following histograms.



a) About what percent of the students at each school get 4 to 6 hours of sleep per night?

Wheatland: 5%
Urbandale: 26%

b) About what percent of the students at Wheatland get at least 8 hours of sleep per night?

About 41%

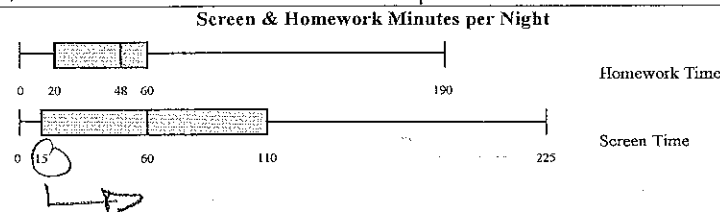
c) About what percent of the students at Urbandale get at least 8 hours of sleep per night?

About 30%

d) Explain which school's students you think get more sleep as a whole. Back up your answer using data from the histograms.

Wheatland because they have more students who get 8 or more hours of sleep

11. Consider the box and whisker plots.



a) What percent of students have at least 15 minutes of screen time?

75%

b) What percent of students do 48 to 60 minutes of homework?

25%

c) What is the median number of minutes spent watching a screen and doing homework?

HW: 48 minutes
Screen: 60 minutes

d) Is it more common for a student to spend more than 1 hour on homework or more than 1 hour watching a screen? Explain.

Screen time because 50% of students have an hour or more of screen time compared to 25% of students doing an hour of homework.