Statistics 2.1: Review #1 Name: Key Hr: __

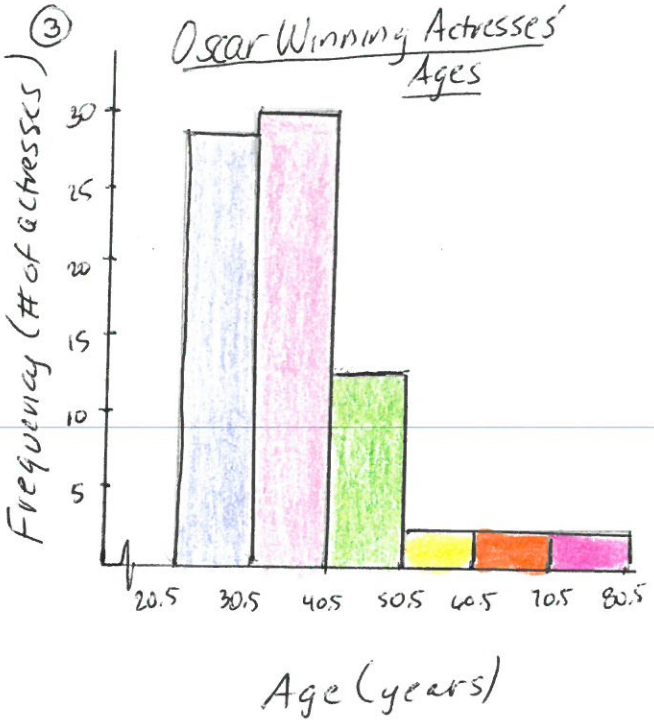
Below is a frequency distribution that lists the age of Oscar-winning actresses. Use the table to answer questions 1 – 6.

Age of Actress	Frequency, f	Midpoint	Relative Frequency	Cumulative Frequency	Class Boundaries
21-30	28	$\frac{21+30}{2} = \frac{51}{2} = 25.5$	$\frac{28}{76} = .37$	28	20.5-30.5
31-40	30	35.5	$\frac{30}{76} = .39$	58	30.5-40.5
41-50	12	45.5	$\frac{12}{76} = .16$	70	40.5-50.5
51-60	2	55.5	$\frac{2}{76} = .03$	72	50.5-60.5
61-70	2	65.5	$\frac{2}{76} = .03$	74	60.5-70.5
71-80	2	75.5	$\frac{2}{76} = .03$	76	70.5-80.5
	$\Sigma f = 76$		$\Sigma = 1.01$		

1. What is the class width? $31-21=10$ or $30-21+1=10$ etc
2. Complete the remaining four columns in the frequency distribution.
3. Construct a frequency histogram using the class boundaries.
4. Construct a frequency polygon.
5. Create a relative frequency histogram using midpoints.
6. Construct an ogive.

You can try and fit the graphs below. Be sure to label them properly.

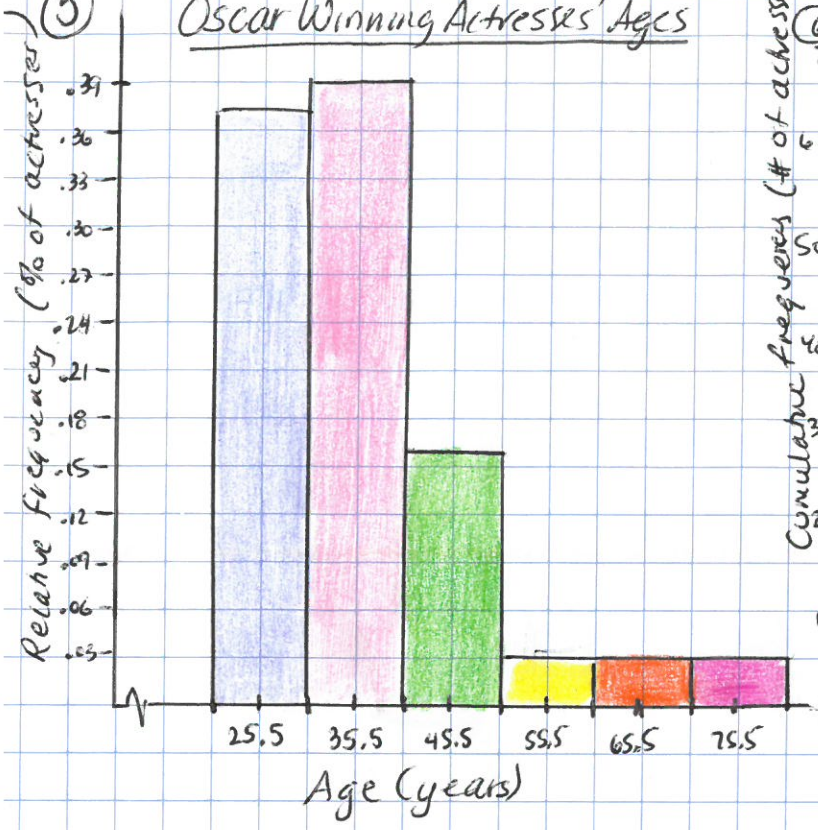
(3)



(4)

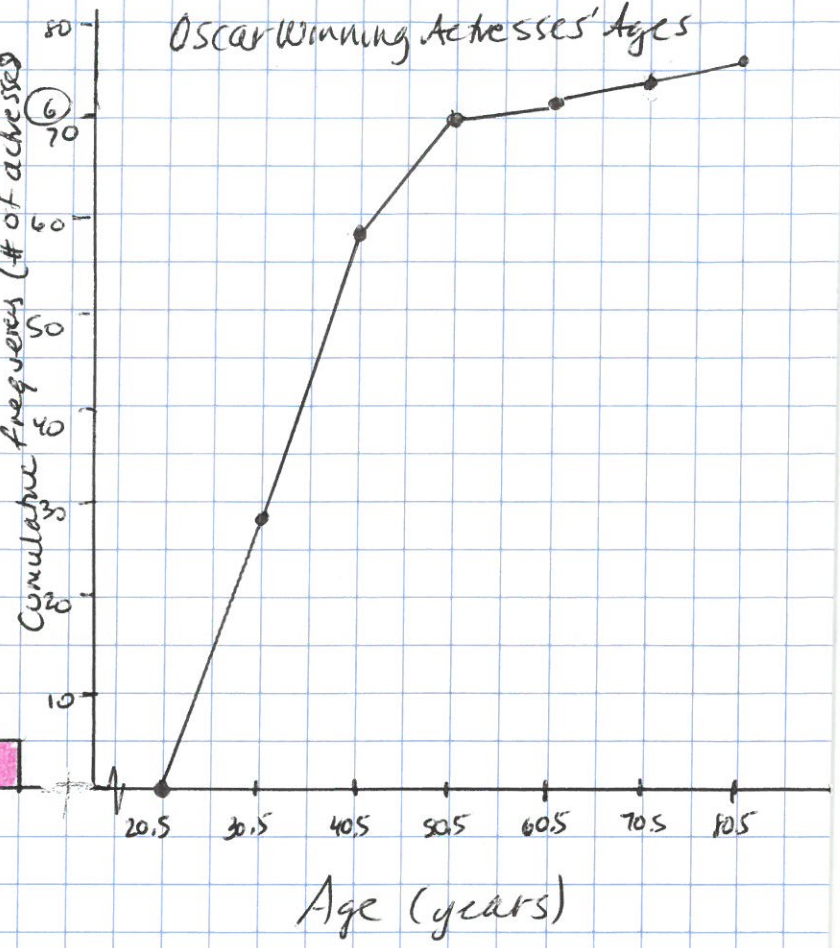
(5)

Oscar Winning Actresses' Ages



(6)

Oscar Winning Actresses' Ages



Answer these questions—they are not from the frequency distribution above.

7. Find the class width if the min = 62 , max = 198 and there are 6 classes.

$\frac{198-62}{6} = \frac{136}{6} \rightarrow 23$ $\quad 6\overline{)136}\ 22\frac{2}{3}$ (12, 16)

8. Find the class width if the min = 12, max = 48 and there are 4 classes.

$\frac{48-12}{4} = \frac{36}{4} = 9 \rightarrow 10$

9. Why do you ALWAYS have to round the class width up to the next whole number? (Besides the fact that I keep telling you to do this?!?)

To make sure all pieces of data can fit into a class

10. About what should the relative frequency column add to? Why?

It should be close to 1. The sum of all of the portions/%'s of something equals 1, (100%)

1 or really

11. Complete the missing information in the frequency distribution below. Then use it to answer questions 12 – 15.

Class	*f*	Midpoint	Rel. Freq.	Cumulative Freq.	Class Boundaries
0 – 7	8	3.5	0.28	8	-0.5 – 7.5
8 - 15	5	11.5	0.17	13	7.5 – 15.5
16 – 23	7	19.5	0.24	20	15.5 – 23.5
24 - 31	3	27.5	0.10	23	23.5 - 31.5
32 - 39	6	35.5	0.21	29	31.5 – 39.5
	Σ= 29		Σ = 1.00		

12. Fill in the sum for the frequency column and the relative frequency column.

13. What is the class width? $8-0=8$ or $15-7=8$ or $7-0+1=8$ or $11.5-3.5=8$ etc

14. If you created a frequency polygon, what values would you use on the x-axis? ? (List the actual numbers that would go on the x-axis.) Midpoints

-4.5 3.5 11.5 19.5 27.5 35.5 43.5

15. If you created an ogive (cumulative frequency line graph), what values would you use on the x-axis? (List the actual numbers that would go on the x-axis.) upper class boundaries

-.5 7.5 15.5 23.5 31.5 39.5