2.1A

Comparing Cumulative Relative Frequency Graphs

The following are grade distributions for 3 AP tests. For each, create a cumulative frequency graph and a bar graph.

Test #1

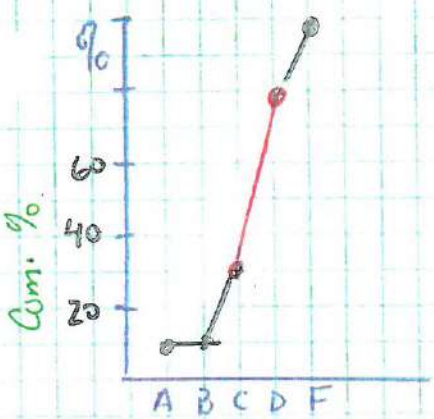
Grade	%	Cum %
A	10	10
B	0	10
C	20	30
D	50	80
F	20	100

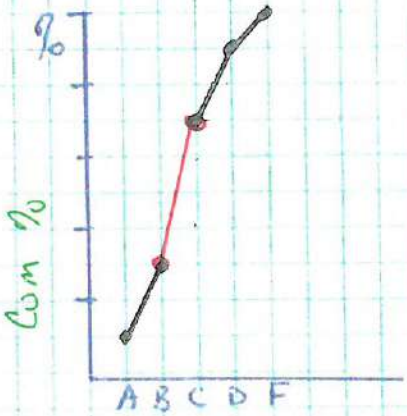
Test #2

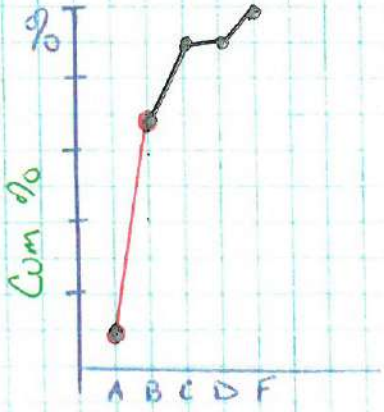
Grade	%	Cum %
A	10	10
B	20	30
C	40	70
D	20	90
F	10	100

Test #3

Grade	%	Cum %
A	10	10
B	60	70
C	20	90
D	0	90
F	10	100







(1) Describe the distribution of each test

Test #1 Skewed Left — M ≃ D
Test #2 Symmetric — M ≃ C
Test #3 Skewed Right — M ≃ B

(2) Think about the steepness? What does it mean?

Test #1 is steepest between C and D; Test #2 steepest B-C; Test #3 steepest A-B. Meaning the cumulative relative frequency is increasing quickly.

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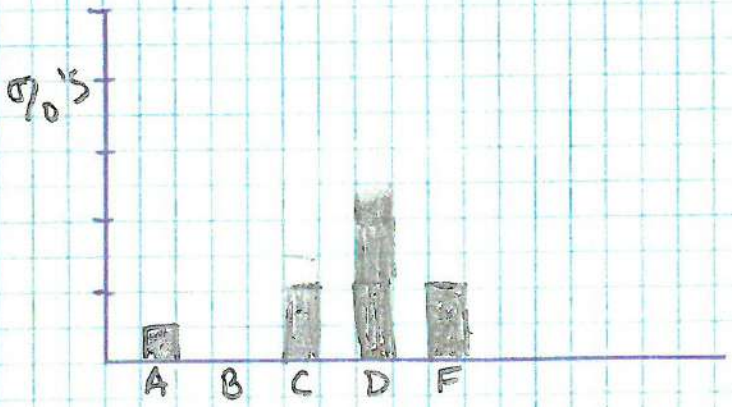
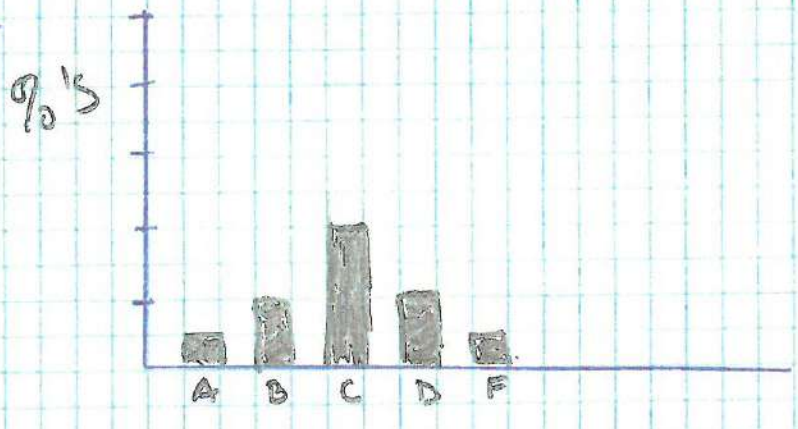
That means Test #1 has a lot of D's
Test #2 has a lot of C's
Test #3 has a lot of B's

NOW, MAKE BAR GRAPHS USING THE RELATIVE FREQUENCIES:

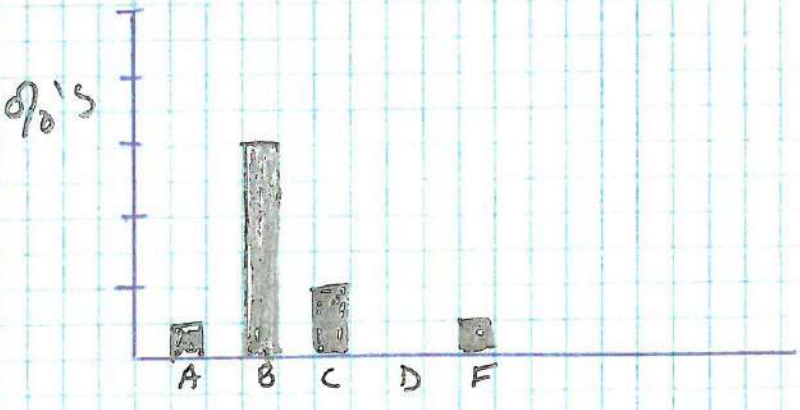
Test #1



TEST #2



TEST #3



SUMMARY What did you learn?

① CUMULATIVE RELATIVE FREQUENCY GRAPH IS A HANDY TOOL FOR IDENTIFY PERCENTILES IN A DISTRIBUTION.

② CUM. REL. FREQ GRAPH - STEEPNESS INDICATES A LARGE % OF THE SAMPLE IN THIS GROUP. AND FLAT PARTS OF GRAPH INDICATE A SMALL % IN THE GROUP

③ BAR GRAPH ARE EASIER TO SEE THE SHAPE OF THE DISTRIBUTION. ④ LABEL GRAPHS CORRECTLY