

Screen Time

Jasmine turned 12 years old last week and her parents gave her a cell phone as a birthday gift. Jasmine's parents said that she is allowed to keep the phone as long as her average screen time each day does not go over 240 minutes during any two-week period of time. Jasmine has kept a record of her screen time over the last 13 days.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Screen Time (minutes)	310	195	220	275	190	210	280	215	195	255	275	270	265	205

$$3,155$$

a) Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow? Explain your reasoning.

190, 195, 195, 210, 215, 220, 255, 265, 270, 275, 275, 280

Handwritten calculations for part (a):

$$3,155 + 310 = 3,465$$

$$\frac{3,465}{14} = 247.5$$

Since the limit is 240 minutes, the maximum for Day 14 is 210 minutes.

210

b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning.

Handwritten calculations for part (b):

Sorted list: 190, 195, 195, 205, 210, 215, 220, 255, 265, 270, 275, 275, 280, 310

Median: 237.5

Mode: 195 and 275

Handwritten note: "Jasmine would have a bit more time in median but mode kinda."

Screen Time

STUDENT B

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Average: 13 days = 242.6923 (over) (3,155)
 Average: 14 days = 240 (205)

a) Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow? Explain your reasoning.

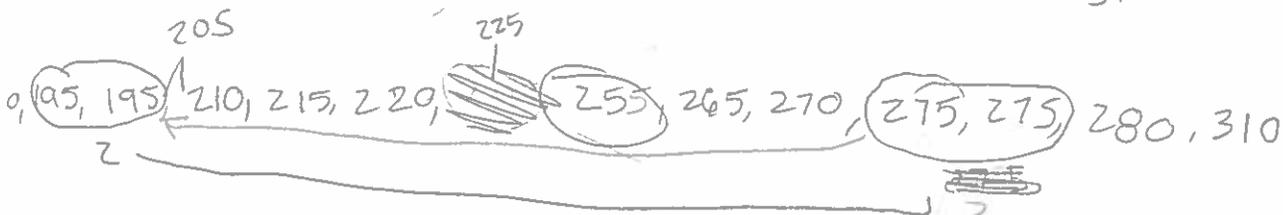
The greatest number you can get is 205 because if you add them all up, you get 3,155 and if you add 205 to 3,155 you get 3,360 and if you divide by 14 you get 240 exactly.

b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning.

Median: $(255 + 255) \div 2 = 240$

Mode: 195 & 275

The median because if you add 225 to the median of 255 then it gets 240 exactly so the median would give Jasmine 26 more minutes.



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3155 min total

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average within 13 days: about 242.7

should be less than 240

a) Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow? Explain your reasoning.

Average in 13 days = around 242.7

Total min = 3155

$$14 \div x = 240$$

$$\frac{14x}{0} = \frac{x \cdot 14}{3360}$$

have to have 3360 total min

$$\begin{array}{r} 3360 \\ - 3155 \\ \hline \end{array}$$

205 min on day 14

b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning.

middle number most common

Median:

190, 195, 195, 210, 215, 220, 255, 265, 270, 275, 275, 280, 310

237.5

median

would make average around 236

Mode: 195 occurs 2x
275 occurs 2x

average between 195 and 275 = 235

195 would make average around 239.3

275 would make average around 245

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3155 190, 195, 195, 210, 215, 220, ²²⁵255, 265, 270, 275

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Screen Time (minutes)	310 1	195 2	220 1	275 2	190 2	210 1	280 1	215 1	195 x	255 1	275 x	270 1	265 1	205 205

275,
280,
310

Average: 242.6923077

below: 225, 210

above: 240

a) Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow? Explain your reasoning.

205. This is because the average of screen time without 205 (day 14) is 242.6923077. I added in 205 as day 14 which lowered the average to 240, which is perfectly balanced on the limit.

b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning.

She cannot use the mode because if she does, her max amount of screen time on day 14 would be 195, which is less than 240. She cannot use the median because her max amount of screen time would be 225, which is greater than 205.

$$\frac{255 + 225}{2} = 240$$

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- a) Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow? Explain your reasoning.

$$3,155 \div 13 = 243$$

I guessed and checked and plugged numbers for day 14 until I got close to 240 minutes

- b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning.

190, 195, 195, 210, 215, 220, 255, 265, 270, 275, 275, 280, 310

195 & 275

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a) Using this information, what is the greatest number of minutes Jasmine can be on her phone for Day 14 to stay within the average of 240 minutes her parents allow? Explain your reasoning.

Median 190, 195, 195, 210, 215, 220, 255, 265, 270, 275, 275, 280, 310
 Mean = 2412.69
 Mode → 195, 195 → 275, 275
 240 x 14 is 3360
 What I did was I kept guessing numbers and then I kept subtracting 5 and then I just found 205 240 ÷ 14 = 17.14
 3360 - 3155 = 205
 3155

b) Jasmine wonders if she might get more screen time on Day 14 using the median or mode as the measure of center to stay within her parents limit of 240 minutes. Would the median or mode allow her more screen time on Day 14? Explain your reasoning.

Median = 255
 mode 195, 195 → 275, 275
 the mode wouldn't work because 195 would give jasmin too little time and 275 would be too much time and jasmin's parents would take her phone!!