LESSON MAKER PRO

Start and Scale

Read what an axis really shows

HIGH SCHOOL · GDA.NQ.B.2.b

GDA.NQ.B.2.b "Choose and interpret the scale and the origin in graphs and data displays."

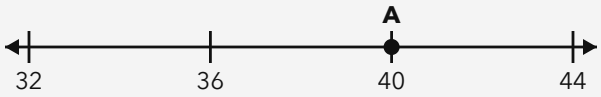
NAME _____ DATE _____

CHECK THE AXIS

The scale tells you how much the value changes from one tick to the next. Check where the displayed axis starts before reading a value. Its starting value may not be zero.

WORKED EXAMPLE

What value does A mark? How much does each tick add?



1. Adjacent ticks differ by 4.
2. A is on the tick at 40.

Answer: A marks 40; each tick adds 4.

PRACTICE 4 problems

1 An axis runs from 70 to 80 in 10 equal intervals. How much does each interval represent?

ANSWER _____

2 Data values are 118, 124, and 130. Start an axis at the smallest value and put each value on the next tick. Give the start and tick interval.

ANSWER _____

3 An axis starts at 80 and rises by 3 per tick. How many intervals above the start is 86?

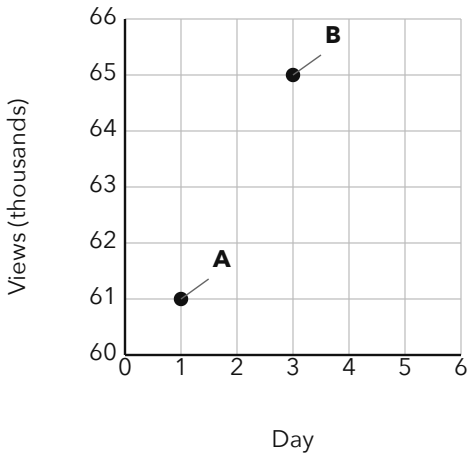
ANSWER _____

4 An axis starts at 95 and ends at 110. What tick interval makes 3 equal intervals?

ANSWER _____

APPLY IT Show your work

1 A creator tracks video views. How many thousand views were added from A to B? Is the origin, (0, 0), shown?



ANSWER _____

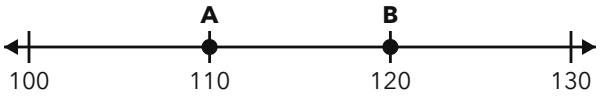
2 An esports team logs its practice sessions. How many minutes apart are the shortest and longest sessions? Where does the displayed axis start?



ANSWER _____

CHALLENGE One step up

A player says B's score is twice A's because B is twice as far from the left end of the line. Explain the mistake.



WORK SPACE AND ANSWER

ANSWER KEY # Start and Scale

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	An axis runs from 70 to 80 in 10 equal intervals. How much does each interval represent?	**1**
2	Data values are 118, 124, and 130. Start an axis at the smallest value and put each value on the next tick. Give the start and tick interval.	**Start at 118; use intervals of 6.**
3	An axis starts at 80 and rises by 3 per tick. How many intervals above the start is 86?	**2 intervals**
4	An axis starts at 95 and ends at 110. What tick interval makes 3 equal intervals?	**5**

PART 2 · APPLY IT

1. **4 thousand views; no, (0, 0) is not shown.** Subtract the plotted view counts: 65 − 61 = 4 thousand. The displayed vertical axis begins at 60, so the origin is not shown.
2. **8 minutes; the axis starts at 50 minutes.** The shortest session is 54 minutes and the longest is 62 minutes. Subtract to get 8 minutes, and read 50 at the left end of the axis.

CHALLENGE

B is twice as far from 100, but its score is 120, not twice A's score of 110. The line starts at 100, not zero.

Accept 4,000 views for the first word problem. In the challenge, accept any explanation that distinguishes distance from the displayed start from the scores themselves.