

Grade 8 - Linear Functions as Models - Test

Common Core 8.F.B.4, 8.F.B.5 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This 20-point test checks linear functions as models, rate of change, initial value and graph descriptions (Common Core 8.F.B.4 and 8.F.B.5). Work alone, show every step, and write each final answer clearly. You have 45 minutes. Calculators are not needed unless a question says so.

About this test

- Grade: Grade 8
- Chapter: Linear Functions as Models
- Standards: 8.F.B.4, 8.F.B.5
- Time: 45 minutes
- Total: 20 points

Question 1 - Rate and initial value [3 pts]

x	0	3	6
y	4	13	22

Find the rate of change, the initial value, and write the function.

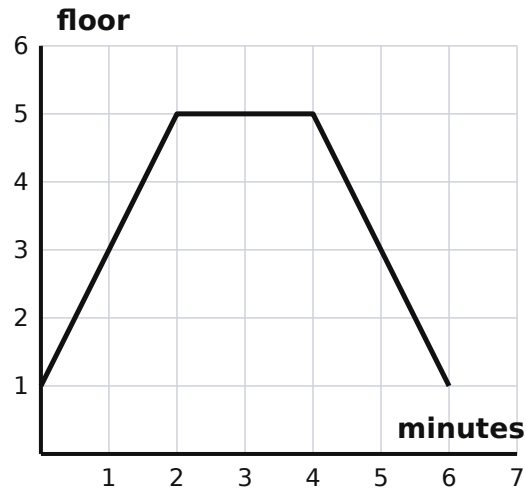
Question 2 - Two points [3 pts]

A linear function passes through (1,8) and (4,17). Write its equation.

Question 3 - Interpret [2 pts]

The cost of a school trip is $C = 8n + 40$ dollars for n students. What do 8 and 40 mean?

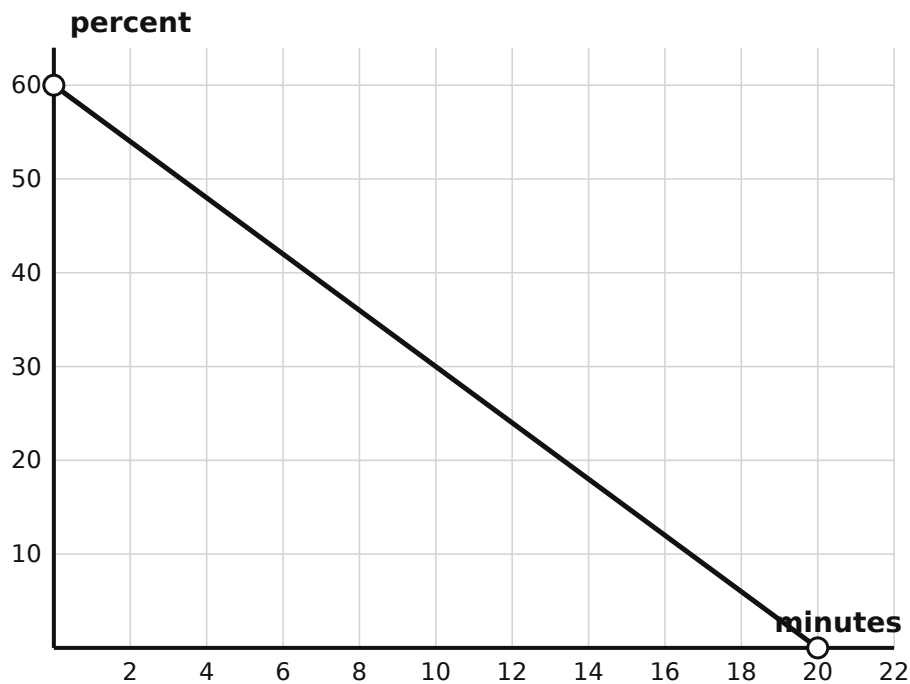
Question 4 - Describe a graph [3 pts]



Height of an elevator.

Describe the graph: where is it increasing, constant and decreasing?

Question 5 - Model and predict [3 pts]



Battery percent after m minutes.

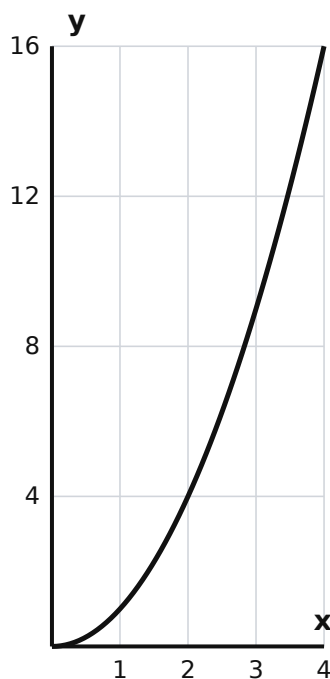
A game console battery has 60% charge and loses 3 percentage points each minute of play. Write a function and find the charge after 12 minutes.

Question 6 - Table [2 pts]

A table has $x = 2, 4, 6$ and $y = 11, 17, 23$. Is the function linear? If so, write the equation.

Question 7 - Compare [2 pts]

Plan A costs \\$20 plus \\$6 per month. Plan B costs \\$35 plus \\$4 per month. Which plan costs less after 12 months?

Question 8 - Linear or not [2 pts]

A graph.

Is this relationship linear? Explain using the rate of change.