LESSON MAKER PRO

Match the Line

Connect a graph's starting value and rate to a real situation.

HIGH SCHOOL · A1.A.4.5

A1.A.4.5 "Analyze and interpret associations between graphical representations and written scenarios."

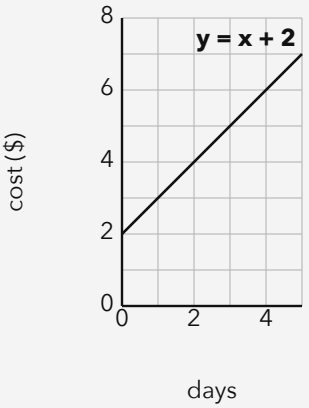
NAME _____ **DATE** _____

READ THE STORY

On a graph, the y-value at x = 0 is the starting amount. The slope tells how much y changes each time x increases by 1.

WORKED EXAMPLE

The graph shows the cost of renting a game for x days. What is the starting fee and the cost per day?



1. At x = 0, the graph shows $2.
2. From x = 0 to x = 1, the cost rises by $1.

Answer: The starting fee is $2, and the cost is $1 per day.

PRACTICE 4 problems

1 A ride-share cost follows y = 4x + 5, where x is miles and y is dollars. What is the starting fee?

ANSWER _____

2 A game score follows y = 6x + 7, where x is rounds played. How many points are added each round?

ANSWER _____

3 A phone's battery percentage follows y = 9 - 3x, where x is minutes. Give its starting percentage and change per minute.

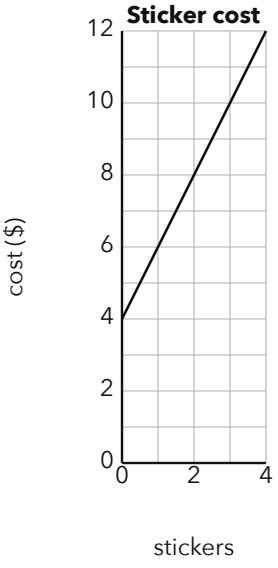
ANSWER _____

4 Dog-walking pay follows y = 8x, where x is hours and y is dollars. Give the starting pay and pay per hour.

ANSWER _____

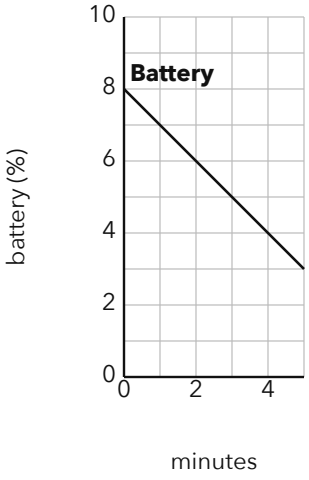
APPLY IT Show your work

1 A club orders custom stickers. Use the graph to find the flat fee and the total cost for 3 stickers.



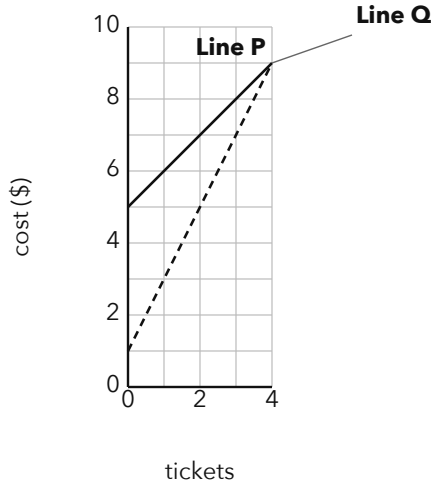
ANSWER _____

2 A phone is nearly out of power. Use the graph to find its starting battery percentage and its percentage after 5 minutes.



ANSWER _____

CHALLENGE One step up



Two plans sell school dance tickets. Plan A charges a $5 fee plus $1 per ticket. Plan B charges a $1 fee plus $2 per ticket. Match each plan to a line. How many tickets make the costs equal?

WORK SPACE AND ANSWER

ANSWER KEY

Match the Line

HIGH SCHOOL · A1.A.4.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A ride-share cost follows y = 4x + 5, where x is miles and y is dollars. What is the starting fee?	**$5**
2	A game score follows y = 6x + 7, where x is rounds played. How many points are added each round?	**6 points**
3	A phone's battery percentage follows y = 9 - 3x, where x is minutes. Give its starting percentage and change per minute.	**It starts at 9% and drops 3 percentage points per minute.**
4	Dog-walking pay follows y = 8x, where x is hours and y is dollars. Give the starting pay and pay per hour.	**The starting pay is $0, and the pay is $8 per hour.**

PART 2 · APPLY IT

1. **$4 flat fee; $10 for 3 stickers** The graph crosses the cost axis at $4. At 3 stickers, it shows $10.
2. **8% at the start; 3% after 5 minutes** Read 8% at 0 minutes and 3% at 5 minutes.

CHALLENGE

Plan A is Line P, and Plan B is Line Q. The costs are equal at 4 tickets, when each plan costs $9.

Accept equivalent wording for starting amounts and rates. For the battery question, distinguish a drop of 3 percentage points per minute from a 3% relative decrease.