What a Point Means

Use the sentence frame for every point: in x input units, you get y output units. Say the units.

Name _____ Date _____

Words we use say the math word, then the plain English

WORD	PLAIN ENGLISH	WHAT YOU DO
Point	A pair of numbers that marks one spot on the graph.	Read it with the sentence frame: in x input units, you get y output units.
Ordered pair (x, y)	The input first, then the output.	Never swap them: (3, 24) is 3 hours, 24 dollars.
Origin, (0, 0)	Zero in gives zero out.	Check that every proportional graph goes through it.
(1, r)	The point that shows the unit rate.	Go over to 1 and up to the line to read r.

Part A Jordan's graph, y = 8x (hours, dollars)

POINT	WHAT IT MEANS (USE THE FRAME)	SPECIAL?
(3, 24)		
(0, 0)		
(1, 8)		
(2.5, 20)		
(5, 40)		

1. Is (4, 30) on Jordan's line? What would 4 hours earn? What does that tell you about the point?

Part B Other graphs

1. A car's graph goes through (1, 28) and (5, 140), gallons across and miles up. What does each point mean? What is the unit rate?

2. A graph has minutes across and gallons up and goes through (4, 10). What does it mean? Find r. What does (1, r) mean?

3. Why is (0, 0) on every proportional graph?

Part C Exit ticket

1. A car's gas graph goes through (1, 28). What does that point mean?

2. What does the origin mean on a proportional graph?

3. On $y = 8x$, is (4, 30) part of the story?

Answer key

Part A. (3, 24): in 3 hours, 24 dollars. (0, 0): 0 hours, 0 dollars; the origin. (1, 8): in 1 hour, 8 dollars; the unit rate. (2.5, 20): in 2.5 hours, 20 dollars; between grid lines, still on the line. (5, 40): in 5 hours, 40 dollars. 1. No; 4 hours earns $32; the point is off the line, not part of the job.

Part B. 1. (1, 28): 1 gallon, 28 miles. (5, 140): 5 gallons, 140 miles. Unit rate 28 miles per gallon. 2. In 4 minutes, 10 gallons. r = 2.5. (1, 2.5): in 1 minute, 2.5 gallons. 3. Zero in gives zero out.

Part C. 1. In 1 gallon, 28 miles: the unit rate. 2. Zero in, zero out. 3. No, 4 hours gives 32, not 30.