LESSON MAKER PRO

Rate Match

Compare slopes across graphs, equations, and tables.

GRADE 8 · 8.AT.A.1.b

8.AT.A.1.b "Compare proportional relationships represented in different forms (e.g., graphs, equations, and tables) by analyzing their slopes."

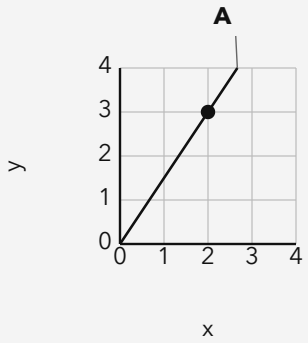
NAME _____ DATE _____

COMPARE UNIT RATES

In a proportional relationship, the slope is y divided by x for any point where x is not zero. In y = mx, the slope is m. Compare the slopes to see which relationship has the greater rate.

WORKED EXAMPLE

Compare the slope of line A with the slope of y = 5/4 x. Which is greater?



1. Line A passes through (2, 3), so its slope is 3/2.
2. The slope of y = 5/4 x is 5/4.
3. 3/2 = 6/4, and 6/4 > 5/4.

Answer: Line A has the greater slope.

PRACTICE 4 problems

1 A: y = 7/8 x. B passes through (0, 0) and (8, 9). Which has the greater slope?

ANSWER _____

2 For A, x = 10 gives y = 9. B: y = 11/10 x. Which has the greater slope?

ANSWER _____

3 A: y = 7/6 x. B: y = 13/12 x. Which has the greater slope?

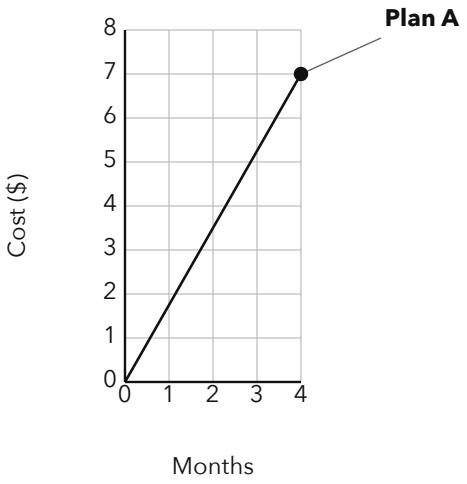
ANSWER _____

4 A passes through (0, 0) and (9, 8). For B, x = 12 gives y = 11. Which has the greater slope? Show one comparison.

ANSWER _____

APPLY IT Show your work

1 Plan A is graphed. Plan B costs $9/4 per month. Which streaming plan costs less per month?



ANSWER _____

2 Game A awards tickets as shown in the table. Game B awards 4 tickets per round. Which game awards more tickets per round?

GAME A

Rounds	Tickets
0	0
3	9
6	18

ANSWER _____

CHALLENGE One step up

A is shown in the table. B is y = 9/10 x, and C is y = 7/8 x. Which relationships have equal slopes? Which has the greatest slope? Explain with rates.

RELATIONSHIP A

x	y
0	0
8	7
16	14

WORK SPACE AND ANSWER

ANSWER KEY

Rate Match

GRADE 8 · 8.AT.A.1.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A: y = 7/8 x. B passes through (0, 0) and (8, 9). Which has the greater slope?	**B, with slope 9/8.**
2	For A, x = 10 gives y = 9. B: y = 11/10 x. Which has the greater slope?	**B, with slope 11/10.**
3	A: y = 7/6 x. B: y = 13/12 x. Which has the greater slope?	**A, since 7/6 = 14/12 > 13/12.**
4	A passes through (0, 0) and (9, 8). For B, x = 12 gives y = 11. Which has the greater slope? Show one comparison.	**B. The slopes are 8/9 and 11/12; 8/9 = 32/36 < 33/36 = 11/12.**

PART 2 · APPLY IT

1. **Plan A.** Plan A costs 7/4 dollars per month. Since 7/4 < 9/4, Plan A costs less per month.
2. **Game B.** Game A awards 9/3 = 3 tickets per round. Game B awards 4 tickets per round.

CHALLENGE

A and C have equal slopes of 7/8. B has the greatest slope because 9/10 = 36/40 > 35/40 = 7/8.

Accept equivalent fractions or decimals in comparisons. For the challenge, students must identify both the tie and the greatest slope.