

Race Car Activity

Race Car Activity

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Summary	Students will look at four different graphs to determine which two describe the scenario proposed by the teacher displaying parallel lines and the correct y -intercepts.
Goals	1. Students will be able to predict which car will lead to the wanted outcomes.
Materials	Handouts
Duration	45 minutes
Keywords	Contextualized Situations Full Class Discussion Linear Functions Production of Equations Production of Graphs Slope y -intercept

Activity Plan:

1. Draw a setup with 2 race cars (labeled A and B) starting at different points and run at the same speed. Both race cars are at a point after the starting line.

Give students handouts (Handout Page 1-2), which contain 4 sets of graphs. Two sets of graphs COULD show a situation that matches the procedure above. Two sets of graphs COULD NOT reflect this situation. And ask the students to pick which set of graphs COULD portray the situation in the front of the room.

Have the students explain why they think their set(s) of graphs is correct.

Discuss and come to a conclusion of which set of graphs is correct.

2. Give the following 3 scenarios (Handout Page 3 - 4) and have the students discuss in groups how the graphs will look.

Car 24 has a penalty and has to start 5 inches behind the start line.

Car 33 gets to start $\frac{1}{2}$ inch in front of the start line.

Car 46 has a penalty and has to start 2 inches behind Car C.

3. If time allows, ask the following question to revive multiplicative functions:

Will the car that started from a farther point ever catch up with the other car?

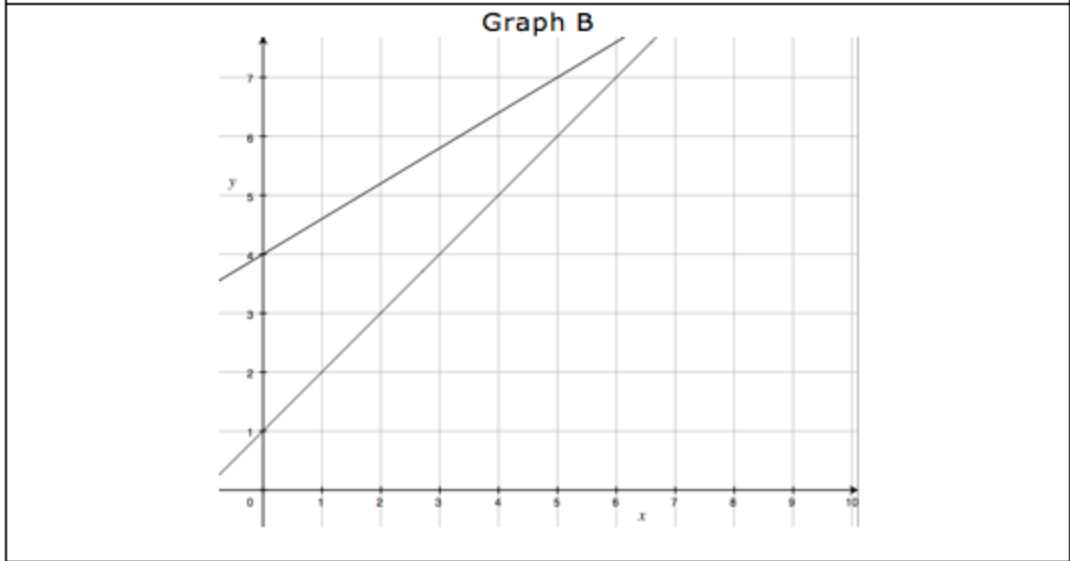
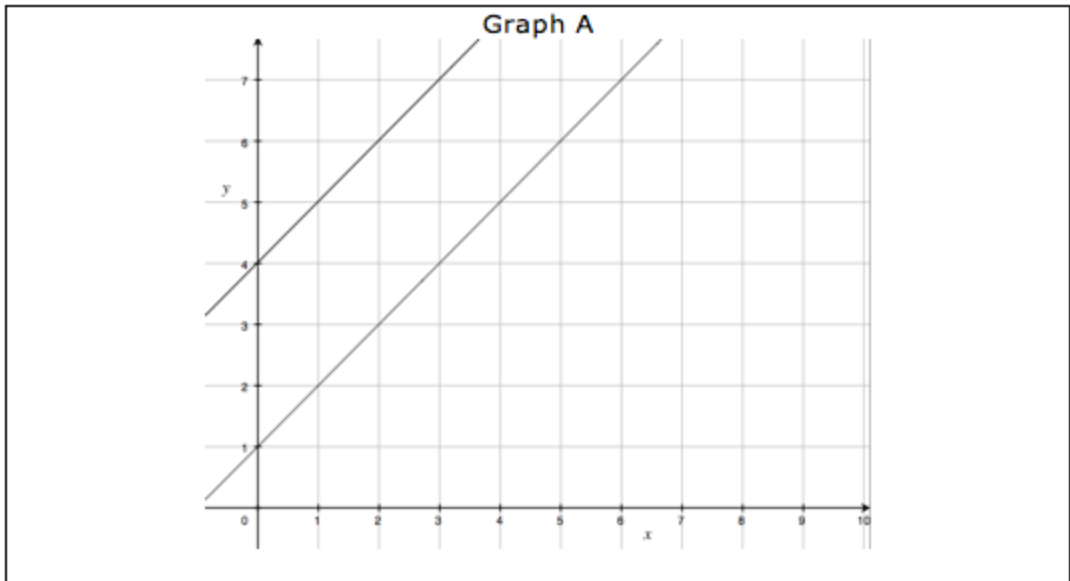
Handout: Race Car Activity

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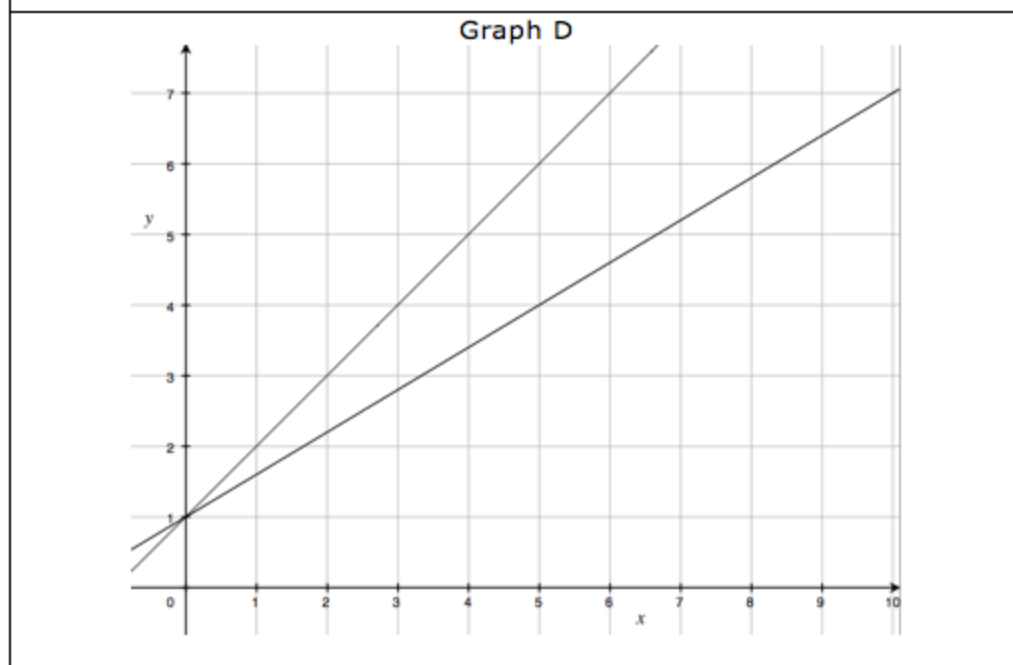
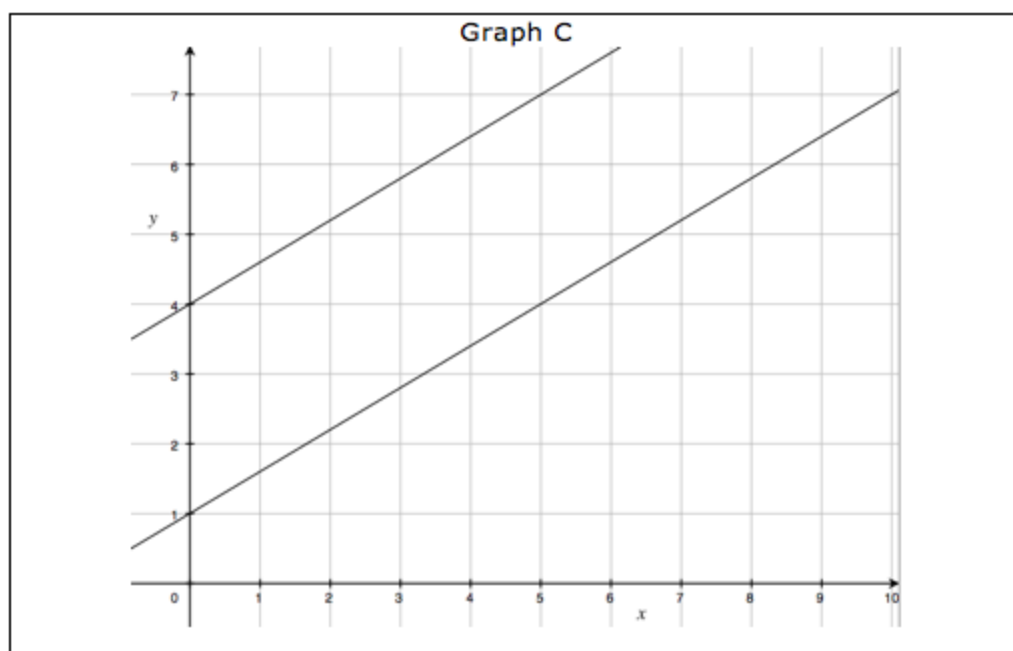
Name: _____ Date: _____

Two race cars (A and B) start at different points and run at the same speed. Both race cars start at a point **after** the starting line. Which graphs could show the distance of the cars from the starting line as a function of time? HINT: there may be more than one possibility!

There are TWO graphs on this page and TWO graphs on the next page.



Name: _____ Date: _____



Handout: Race Car Activity

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Imagine you have three cars ready to compete, but all the cars go at the same speed all the time. But, there are different penalties and rewards:

- Car 24 has a penalty and has to start 5 inches behind the start line.
- Car 33 gets to start $\frac{1}{2}$ inch in front of the start line.
- Car 46 has a penalty and has to start 2 inches behind Car 24.

If you made a graph of these three cars' distance from the starting line as a function of time, what would it look like? Explain in *words*.

Will the car that started from a further point ever catch up with the other car?

On the next page, sketch a graph for the race of Car 24, Car 33, and Car 46. The graph does not have to be perfect! Remember: we don't know how fast they are going. We only know that they go at the same speed.

Handout: Race Car Activity

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Name: _____ Date: _____

Sketch a graph for the race of Car 24, Car 33, and Car 46.

