

Solve each scenario with the graph and with the equations.

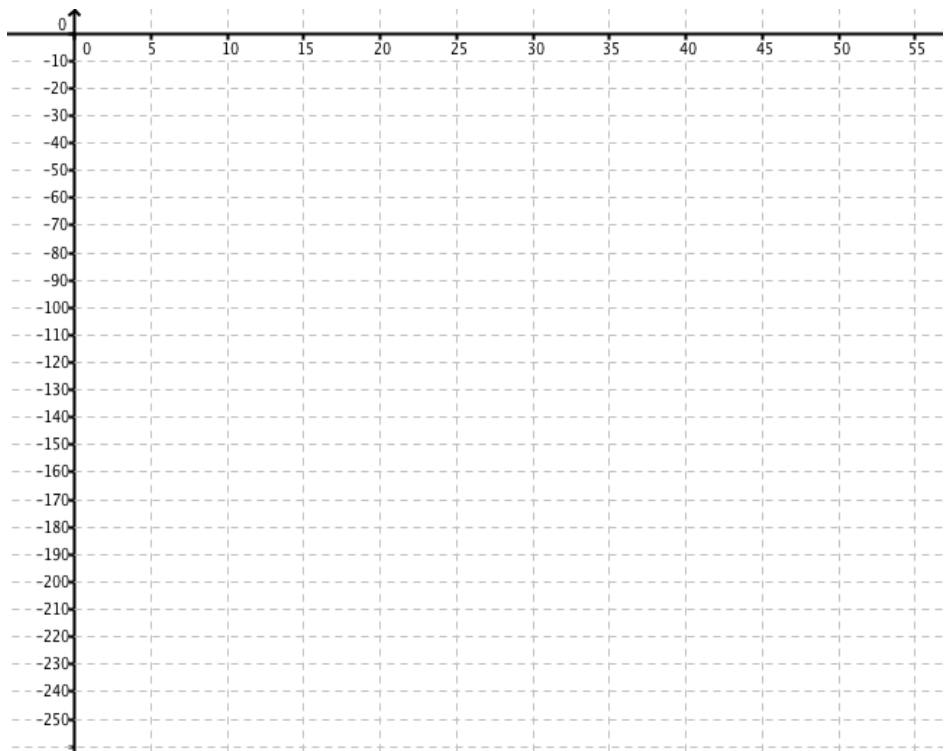
- Nolan and Megan are scuba diving off the coast of the mysterious Ray Islands. After diving down to the bottom, which is, 245-feet under the surface, they collected some coral and shells and headed towards the top. Nolan is 225-feet under the surface and is swimming up at a speed of 4 feet a second. At that moment, Megan leaves the bottom and is swimming towards the surface at a constant speed of 5 feet a second. Who reaches the top first?

Write the equations here. Nolan:

Megan:

Solve using the equations.

Solve using the graphs.



Who reached the surface first?

At what point did _____ pass _____? How much time had gone by? How far under the surface were they?

After 10 seconds, where was each swimmer? After 40 seconds?

How long was _____ waiting at the top for _____?

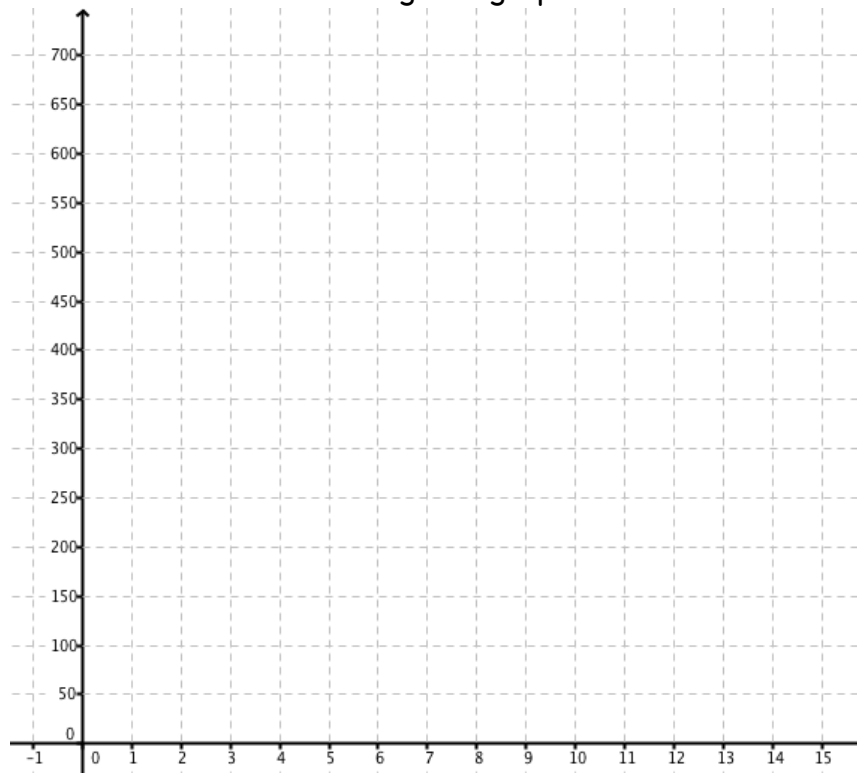
2. Allison and Christina are each going on a hot-air balloon ride for their 16th birthday. Allison decides to go with Hot-Air Excursions, while Christina hired Crazy Molecules. Each of them plans to take the ride on the same day, close to the same time. Crazy Molecules assures Christina that they can rise at a rate of 50 feet a minute, while Hot-Air Excursions assures Allison that they can raise at a rate of 42 feet a minute. When the day comes, Allison's company takes off before Christina's and gets a 90-foot head start. At that moment, Christina takes off. How long does it take before Christina's company can catch up to Allison?

Write an equation for each person. Allison:

Christina:

Solve using the equations.

Solve using the graphs.



Who reaches 300 feet first?

How long did it take Christina's company to catch up to Allison? How high were the balloons at this time?

Who reaches 562.5 feet first?

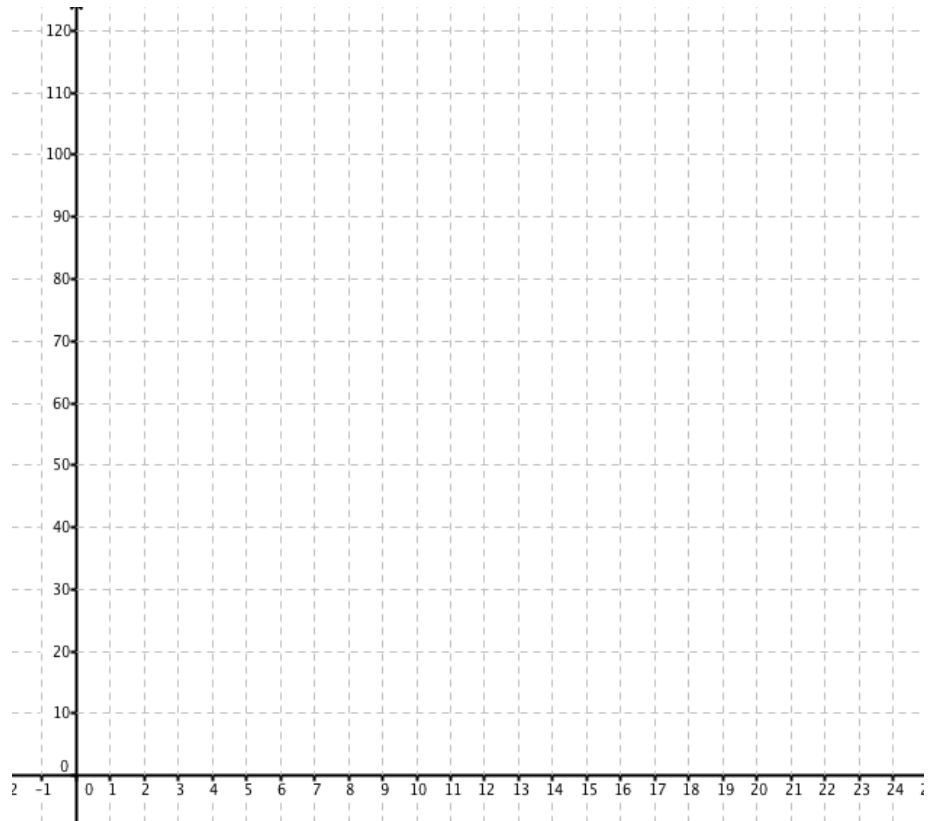
3. Madison and Joe decide one day that want to race their pet turtles. Madison thinks that her turtle will have no trouble out crawling Joe's turtle any day. One Friday after school, they head to Tim's Turtle Track to test out who has the fastest turtle. They decide that they will race their turtles for 100 inches. Madison's turtle crawls at an incredible speed of 6 inches a minute, while Joe's turtle crawls at an amazing pace of 5.5 inches a minute. As the race starts, Madison's turtle doesn't move, while Joes turtle gets a comfortable lead of 50 inches. At that moment, Madison's turtle takes off at continues at the constant pace.

Write an equation for each turtle here: Madison's:

Joes:

Solve using the equations.

Solve using the graphs.



Who's turtle reached the end of the track (100 inches) first?