SOLVE THE PROBLEM USING DATA, GRAPHS, MOTION MAP, AND EQUATOIONS

Two toy cars start 10 m apart. The red car moves at 1.2 m/s, and the blue car has a speed of 0.8 m/s. Determine the location where they will collide.
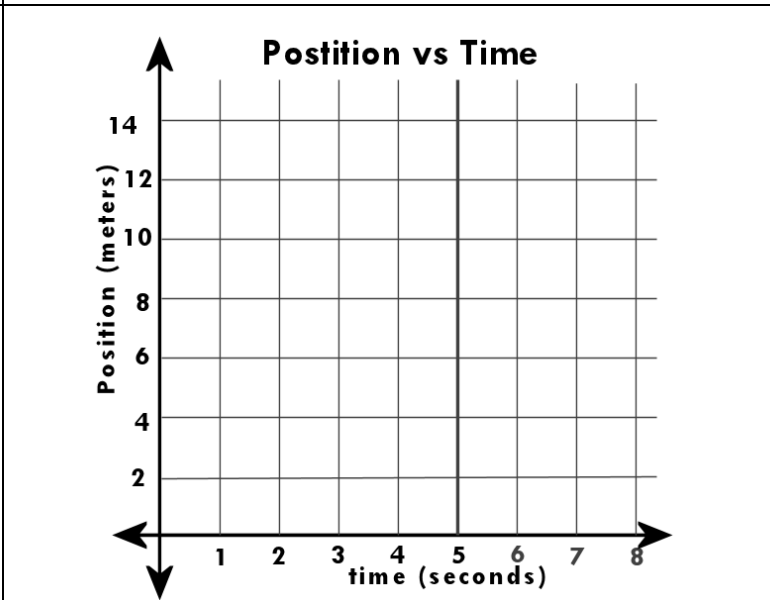
We will start the **red / blue** car at 0 m, and the **red / blue** car at 10 m.

DATA TABLE			GRAPHING

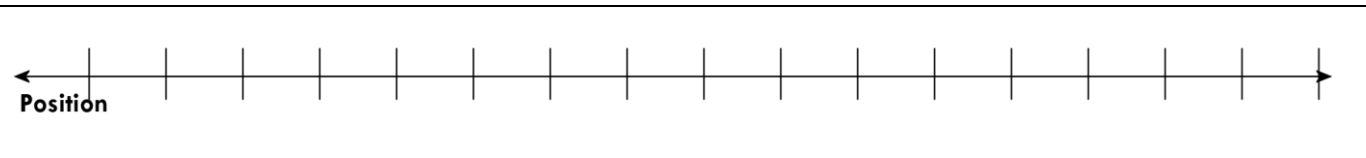| Time (s)	Red car position (m)	Blue car position (m)

Postition vs Time

Collision position & time:

Collision position & time:

MOTION MAP

Position

Collision position & time:

TWO EQUATIONS AND TWO UNKNOWS

Red car equation:

Blue car equation:

Combine equations, rearrange, and solve for the collision location.

Calculated collision position & time:

Your two cars start 4 m apart. The red car has a velocity of _____ m/s, and the blue car has a velocity of _____ m/s. Determine the location where they will collide.
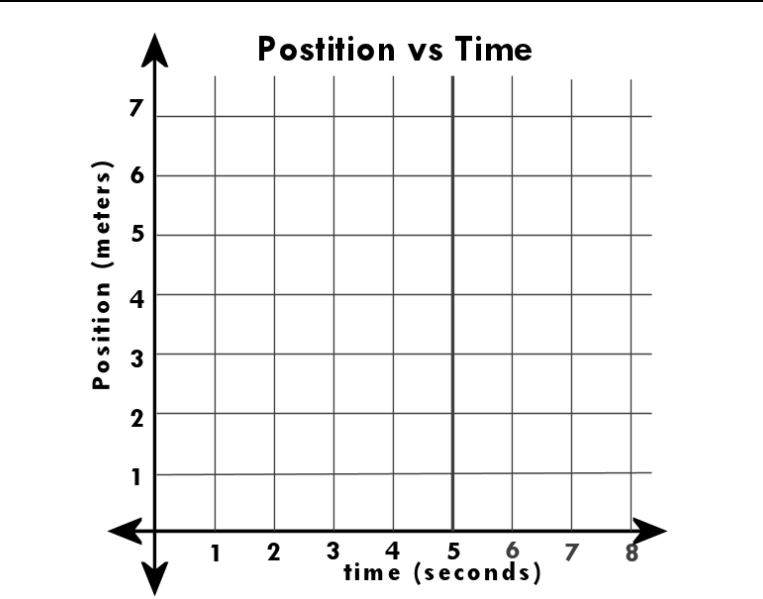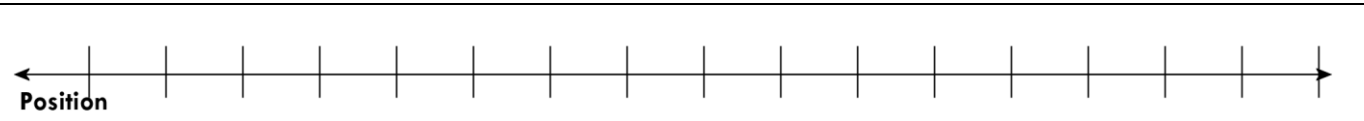
We will start the **red / blue** car at 0 m, and the **red / blue** car at 4.0 m.

DATA TABLE			GRAPHING

DATA TABLE

Time (s)	Red car position (m)	Blue car position (m)

Collision position & time:

GRAPHING

Postition vs Time

Position (meters) vs time (seconds)

Collision position & time:

MOTION MAP

Position

Collision position & time:

TWO EQUATIONS AND TWO UNKNOWS

Red car equation:

Blue car equation:

Combine equations, rearrange, and solve for the collision location.

Calculated collision position & time: