

Summarize

Have groups display their work and explain their thinking for Question A.

Then check the match between the groups' algebraically calculated results and the location of intersection points on the graph.

Discuss Question B as a whole group.

Materials

- Student notebooks

ACE Assignment Guide for Problem 4.1



Core 1–7

Other 27–37, 61, and unassigned choices from previous problems

Adapted For suggestions about adapting Exercises 2–7 and other ACE exercises, see the *CMP Special Needs Handbook*.

Connecting to Prior Units 27–37: *Moving Straight Ahead*

Answers to Problem 4.1

- A. 1. $0.3x - 2 = -2x + 14$, so $x \approx 6.96$.
(6.96, 0.09)
2. (4.11, 5.78)
3. $x \approx 2.81$ and $y \approx 8.38$
4. $x \approx 5.21$ and $y \approx 7.42$

- B. The strategy that will work consistently on these cases is to solve $ax + b = cx + d$ for x and then use that value and either individual original equation to calculate y . A formula for x will be $x = \frac{d - b}{a - c}$. You could reason to this formula as follows:

$$ax + b = cx + d$$

$$\text{equivalent to } ax - cx = d - b$$

$$\text{equivalent to } (a - c)x = d - b$$

$$\text{equivalent to } x = \frac{d - b}{a - c}$$

- C. If a flight controller spotted two planes headed toward a collision, he/she could ask one or the other to change altitude, slow or increase its speed, or change course heading.