

ACE Assignment Guide for Problem 3.3



Core 10–14

Other 9, 51–62, 64, 65 and unassigned choices from previous problems

Adapted For suggestions about adapting ACE exercises, see the CMP *Special Needs Handbook*.

Connecting to Prior Units 48, 50: *Moving Straight Ahead*; 50: *Say It With Symbols*

Answers to Problem 3.3

A. 1. $10x + 5y = 400$

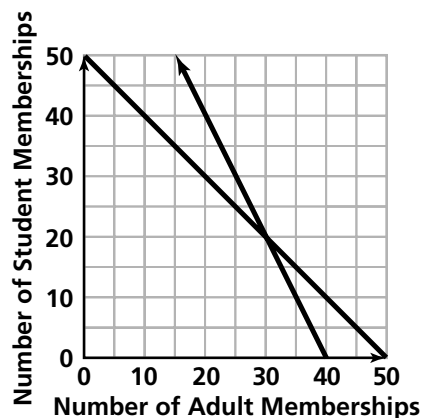
2. Answers will vary. (20, 40) and (10, 60) are 2 examples.

3. $x + y = 50$; neither of the two examples above is also a solution for $x + y = 50$. (30, 20) is the only common solution.

B. 1. Graphs of the equations:

$$10x + 5y = 400$$

$$x + y = 50$$



2. Since (30, 20) is on the line $10x + 5y = 400$, we know that 30 adult memberships and 20 student memberships will create a \$400 income. Also, since (30, 20) is on the line $x + y = 50$, we know that we have a total of 50 memberships. The point (30, 20) satisfies both conditions.

3. No. The graph is the set of all points that are solutions to $10x + 5y = 400$. A point not on the graph line will not be a solution.

4. No; a common solution must be on both lines, and in particular, it must be a point of intersection of the two lines.

C. 1. (1, 3). Checking answer: $1 + 3 = 4$ and $1 - 3 = -2$.

2. (1, -3). Checking answer: $2(1) + (-3) = -1$ and $1 - 2(-3) = 7$.

3. (0, 3). Checking answer: $2(0) + 3 = 3$ and $-(0) + 2(3) = 6$.