

## Training Clients

A trainer is planning the exercise programs for a group of clients.

To start, the trainer wants to determine how many minutes each client wants to spend walking,  $x$ , and lifting weights,  $y$ .

1. Client A wants to spend a total of 45 minutes per day walking and lifting weights.

$$x + y = 45$$

- a) Predict the properties of the graph of this equation.

Consider shape, rate of change, symmetry, and intercepts.

- b) Complete the table of values to identify a set of points that meet this criteria.

$x$	$y$

- c) Use the table of values and the properties you predicted to sketch a graph.

- d) Graph  $x + y = 45$  using technology and compare the graphs.

Were your predictions correct? Explain.

**Training Clients (cont'd)**

2. Client B wants to spend 15 more minutes walking per day than lifting weights.

$$x - y = 15$$

- a) Predict the properties of the graph of this equation.  
Consider shape, rate of change, symmetry, and intercepts.

- b) Complete the table of values to identify a set of points that meet this criteria.

$x$	$y$

- c) Use the table of values and the properties you predicted to sketch a graph.

- d) Graph  $x - y = 15$  using technology and compare the graphs.  
Were your predictions correct? Explain.

**Training Clients (cont'd)**

3. Client C wants to spend 3 days running and 2 days lifting per week.  
They want to spend 180 minutes exercising in all.

$$3x + 2y = 180$$

- a) Predict the properties of the graph of this equation.  
Consider shape, rate of change, symmetry, and intercepts.

- b) Complete the table of values to identify a set of points that meet this criteria.

$x$	$y$

- c) Use the table of values and the properties you predicted to sketch a graph.

- d) Graph  $3x + 2y = 180$  using technology and compare the graphs.  
Were your predictions correct? Explain.

**Training Clients (cont'd)**

4. Client D does not want to lift weights at all. They have 10 minutes per day to exercise.

$$x = 10$$

- a) Predict the properties of the graph of this equation.  
Consider shape, rate of change, symmetry, and intercepts.

- b) Complete the table of values to identify a set of points that meet this criteria.

$x$	$y$

- c) Use the table of values and the properties you predicted to sketch a graph.

- d) Graph  $x = 10$  using technology and compare the graphs.  
Were your predictions correct? Explain.