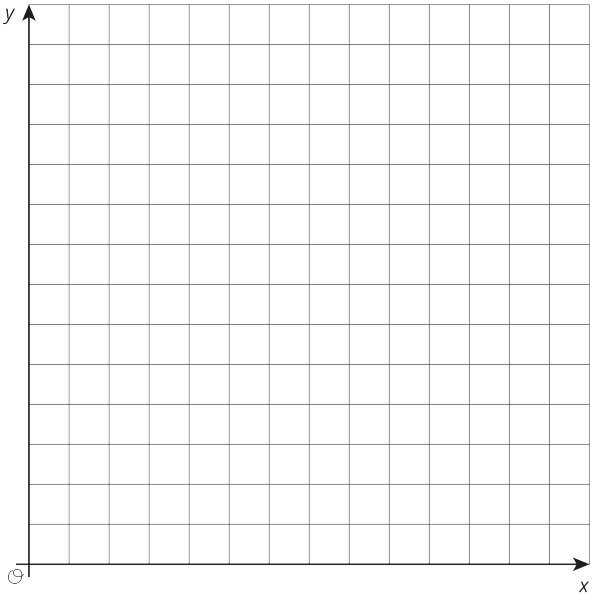
Lesson 7 Practice Problems

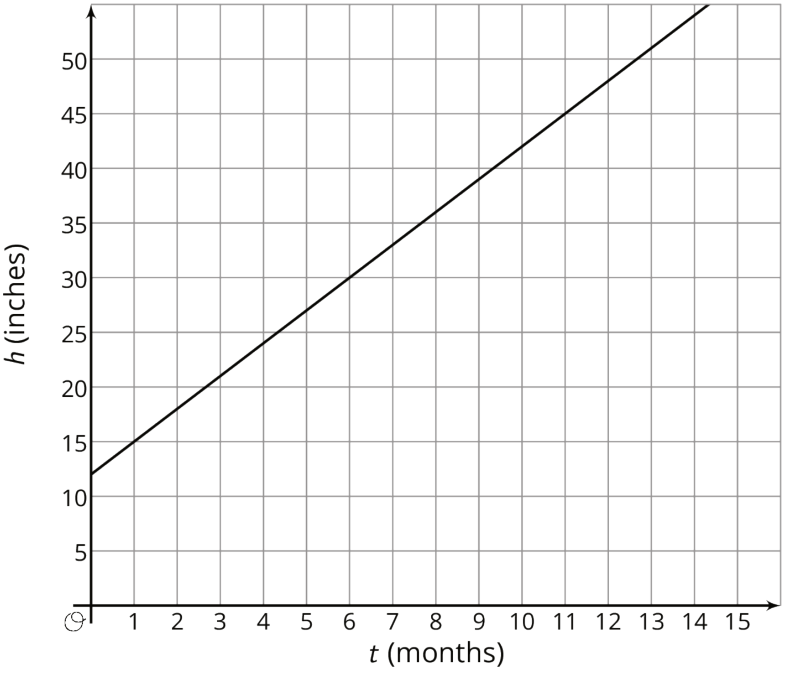
1. Create a graph that shows three linear relationships with different y-intercepts using the following slopes, and write an equation for each line.

   Slopes:

   - $\frac{1}{5}$
   - $\frac{3}{5}$
   - $\frac{6}{5}$



2. The graph shows the height in inches, h, of a bamboo plant t months after it has been planted.



   a. Write an equation that describes the relationship between h and t.

   b. After how many months will the bamboo plant be 66 inches tall? Explain or show your reasoning.

3. Here are recipes for two different banana cakes. Information for the first recipe is shown in the table.

sugar (cups)	flour (cups)
$\frac{1}{2}$	$\frac{3}{4}$
$2\frac{1}{2}$	$3\frac{3}{4}$
3	$4\frac{1}{2}$

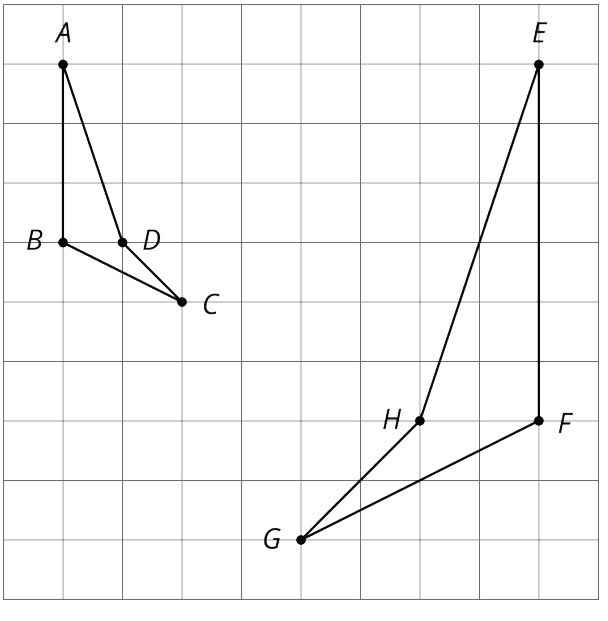
The relationship between cups of flour y and cups of sugar x in the second recipe is $y = \frac{7}{4}x$

a. If you used 4 cups of sugar, how much flour does each recipe need?

b. What is the constant of proportionality for each situation and what does it mean?

(From Unit 3, Lesson 4.)

4. Show that the two figures are similar by identifying a sequence of translations, rotations, reflections, and dilations that takes the larger figure to the smaller one.



(From Unit 2, Lesson 6.)