CONSTRUCTED-RESPONSE ITEMS

11. A large washtub already contains 6 gallons of water. A faucet is turned on and continues to fill the washtub at a rate of $\frac{1}{2}$ gallon per minute.

A. How many total gallons of water will be in the washtub when the faucet has been on for 5 minutes?

_____ gallons

When the faucet has been on for x minutes, there will be y gallons of water in the washtub.

B. Write a linear equation to model the number of gallons of water (y) in the washtub x minutes after the faucet has been turned on.

linear equation: _____

C. Using your equation, determine the number of minutes from when the faucet is turned on until there are exactly $23\frac{3}{4}$ gallons of water in the washtub.

_____ minutes

Go to the next page to finish question 11.

11. *Continued*. Please refer to the previous page for task explanation.

A second washtub already contains 2 gallons of water. A larger faucet is used to fill this washtub at a rate $1\frac{1}{2}$ times the rate of the first faucet.

Both faucets are turned on at the same time.

D. Determine the number of minutes until both washtubs contain the same number of gallons of water.

_____ minutes