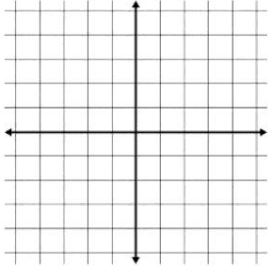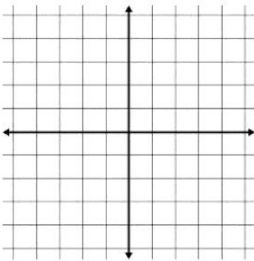Chapter 5 word problem worksheet

1. When Phil started his new job, he owed the company $65 for his uniforms. He is earning $13 per hour. The cost of his uniforms is withheld from his earnings. Write an equation that models the total money he has *m* after *h* hours of work. What is the graph of the equation?

5. A restaurant's goal is to serve 600 customers in 8 hours and 900 customers in 12 hours. Write an equation in point-slope form that represents the number of customers served per hour. What is the graph of the equation?
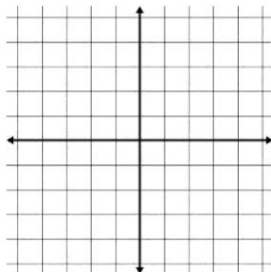
2. A sign says that 3 tickets cost $22.50 and that 7 tickets cost $52.50. Write an equation in point-slope form that represents the cost of tickets. What is the graph of the equation?

6. You work two jobs. At the first job, you earn $10 per hour. At the second job, you earn $12 per hour. You earned $440 last week. Write and graph an equation that represents this situation. What are three combinations of hours you could have worked at each job?
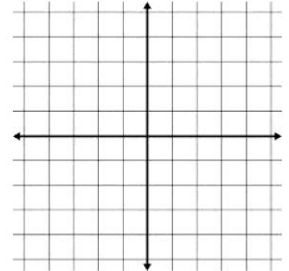
3. You have only nickels and dimes in your piggy bank. When you ran the coins through a change counter, it indicated you have 595 cents. Write and graph an equation that represents this situation. What are three combinations of nickels and dimes you could have?

7. Mike was the kicker for the football team. He scored 56 points during the season kicking field goals (3 points) and extra points (1 point). Write and graph an equation that represents this situation. What are three combinations of field goals *x* and extra points *y* he could have made?

4. A car is traveling at 45 mi/h. Write an equation that models the total distance *d* traveled after *h* hours. What is the graph of the equation?

Chapter 5 Find The Errors!

For use with Lessons 5-1 through 5-2

For each exercise, identify the error(s) in planning the solution or solving the problem. Then write the correct solution.

1. The table shows the price for different amounts of cashew nuts. What is the rate of change in price with respect to weight? What does that rate of change represent?

Weight (1bs.)	Price ($)
1	3.5
2	7
3	10.5
4	14

$$\text{rate of change } = \frac{\text{change in price}}{\text{change in weight}}$$

$$\frac{2-1}{7-3.5} \approx 0.286 \qquad \frac{3-2}{10.5-7} \approx 0.286 \qquad \frac{4-3}{14-10.5} \approx 0.286$$

The rate of change is approximately $0.286 per pound.

It represents the unit price of the cashews.

2. What is the slope of the line through $(9, -3)$ and $(7, -4)$?

$$\text{slope } = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{-4 - (-3)}{9 - 7}$$

$$= -\frac{1}{2}$$

The slope of the line is $-\frac{1}{2}$.

3. A line passes through $(6, -3)$ and has a slope of 2. What is an equation of the line?

$$y - (6) = 2[x - (-3)]$$

$$y - 6 = 2(x + 3)$$

For each exercise, identify the error(s) in planning the solution or solving the problem. Then write the correct solution.

1. What is an equation in slope-intercept form of a line that passes through the points $(0, 5)$ and $(4, 0)$?

Step 1 Find the slope.

$$\frac{0-5}{4-0} = -\frac{5}{4}$$

Step 2 Find b.

$$y = mx + b$$

$$5 = -\frac{5}{4}(4) + b$$

$$5 = -5 + b$$

$$10 = b$$

Step 3 Substitute into the slope-intercept form.

$$y = mx + b$$

$$y = -\frac{5}{4}x + 10$$

An equation of the line is $y = -\frac{5}{4}x + 10$.

2. A student starts with $20 and saves $10 each week. What graph models the amount of money she has after x weeks?

Step 1 Identify the slope and the y-intercept.

The slope is 20.

The y-intercept is 10.
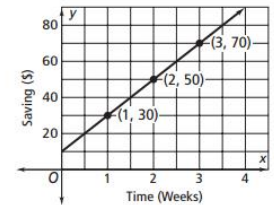
Step 2 Substitute into the slope-intercept form.

$$y = mx + b$$

$$y = 20x + 10$$

Step 3 Graph the equation.

The y-intercept is 10. Graph the point $(0, 10)$.

The slope is 20. Graph a point 20 units above and 1 unit to the right of $(0, 10)$.

4. What is $y = -\frac{2}{3}x + 8$ written in standard form using integers?

$$y = -\frac{2}{3}x + 8$$

$$3y = 3\left(-\frac{2}{3}x + 8\right)$$

$$3y = -2x + 8$$

$$2x + 3y = 8$$