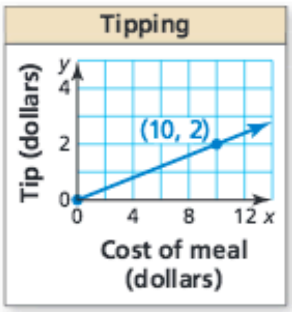
Algebra 2A Assignment l05 Wednesday, September 15, 2015 Hour Name

01.03– Modeling with Linear Functions - Page 26, #'s 4, 6, 8, 10, 11, 12, 13, 14, 15, 16

In Exercises 3–8, use the graph to write an equation of the line and interpret the slope. *(See Example 1.)*

3.



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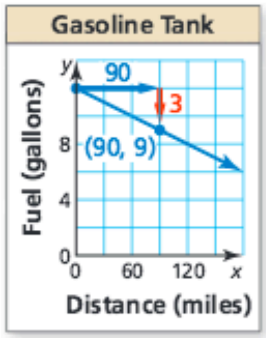

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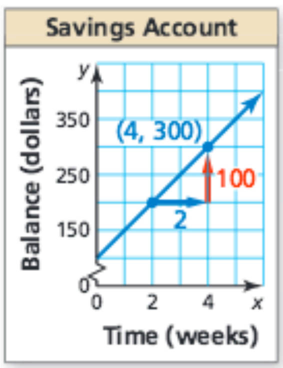

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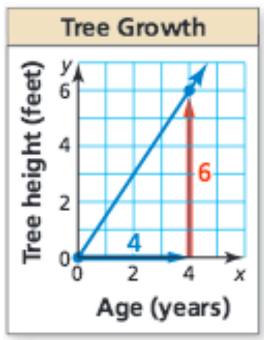

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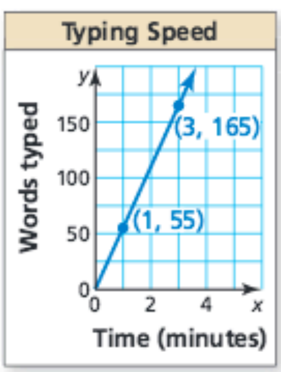

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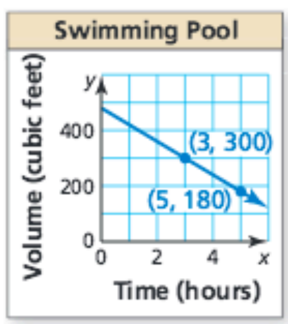


9. **MODELING WITH MATHEMATICS** Two newspapers charge a fee for placing an advertisement in their paper plus a fee based on the number of lines in the advertisement. The table shows the total costs for different length advertisements at the Daily Times. The total cost y (in dollars) for an advertisement that is x lines long at the Greenville Journal is represented by the equation $y = 2x + 20$. Which newspaper charges less per line? How many lines must be in an advertisement for the total costs to be the same? *(See Example 2.)*

Daily Times	
Number of lines, x	Total cost, y
4	27
5	30
6	33
7	36
8	39

10. **PROBLEM SOLVING** While on vacation in Canada, you notice that temperatures are reported in degrees Celsius. You know there is a linear relationship between Fahrenheit and Celsius, but you forget the formula. From science class, you remember the freezing point of water is 0°C or 32°F, and its boiling point is 100°C or 212°F.

a. Write an equation that represents degrees Fahrenheit in terms of degrees Celsius.

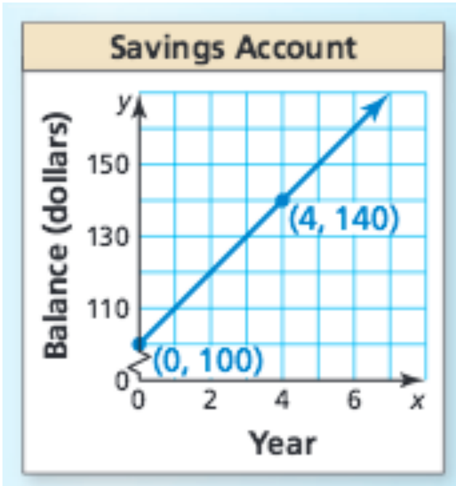
b. The temperature outside is 22°C. What is this temperature in degrees Fahrenheit?

c. Rewrite your equation in part (a) to represent degrees Celsius in terms of degrees Fahrenheit.

d. The temperature of the hotel pool water is 83°F. What is this temperature in degrees Celsius?

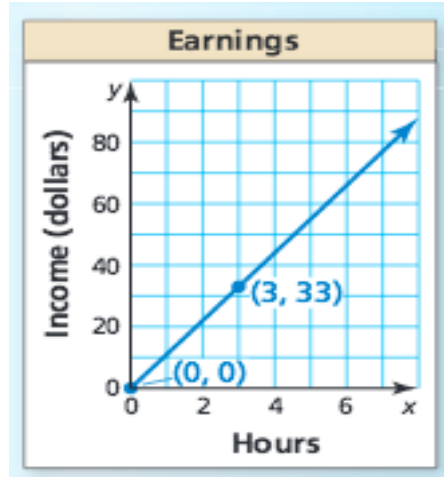
In Exercises 11 and 12, Correct the error in interpreting the slope in the context of the situation

11.



The slope of the line is 10, so after 7 years, the balance is $70.00

12.



The slope is 3, so the income is $3 per hour.

In Exercises 13-16, determine whether the data show a linear relationship. If so, write an equation of a line of fit. Estimate y when x = 15 and explain its meaning in the context of the situation.

13.

Minutes walking, x	1	6	11	13	16
Calories burned, y	6	27	50	56	70

14.

Months, x	9	13	18	22	23
Hair length (in.), y	3	5	7	10	11

15.

Hours, x	3	7	9	17	20
Battery life (%), y	86	61	50	26	0

16.

Shoe size, x	6	8	8.5	10	13
Heart rate (bpm), y	112	94	100	132	87