

Problem 4.4

Part A

Anjelita's Birthday

Today is Anjelita's birthday. Her grandfather gave Anjelita some money as a birthday gift. Anjelita plans to put her birthday money in a safe place and add part of her allowance to it each week. Her sister, Maria, wants to know how much their grandfather gave her and how much of her allowance she is planning to save each week. As usual, Anjelita does not answer her sister directly. Instead, she wants her to figure out the answer for herself. She gives her these clues:

- After 5 weeks, I will have saved a total of \$175.
- After 8 weeks, I will have saved \$190.

1. How much of her allowance is Anjelita planning to save each week?
2. How much birthday money did Anjelita's grandfather give her for her birthday?
3. Write an equation for the total amount of money A Anjelita will have saved after n weeks.

What information does the y-intercept represent in this context?

What information does the coefficient of n represent in this context?

Part B

Converting Temperatures

Detroit, Michigan, is just across the Detroit River from the Canadian city of Windsor, Ontario. Because Canada uses the Celsius temperature scale, weather reports in Detroit often give temperatures in both degrees Fahrenheit and in degrees Celsius. The relationship between degrees Fahrenheit and degrees Celsius is linear.

Moving Straight Ahead

Two important reference points for temperature are:

- Water freezes at 0°C , or 32°F
- Water boils at 100°C , or 212°F

1. Use this information to write an equation for the relationship between degrees Fahrenheit and degrees Celsius.

2. How did you find the y-intercept?

What does the y-intercept tell you about this situation?

| Monday | Tuesday | Wednesday | Thursday | Friday |
|----------------------|----------------------|----------------------|----------------------|----------------------|
| 55°F | 58°F | 63°F | 70°F | 58°F |
| 13°C | 14°C | 17°C | 21°C | 14°C |