

<b>Student Task</b>	Convert cake baking temperatures between Celsius and Fahrenheit.
<b>Core Idea 3 Algebra and Functions</b>	<b>Understand relations and functions, analyze mathematical situations, and use models to solve problems involving quantity and change.</b> <ul style="list-style-type: none"><li>• Express mathematical relationships using expressions and equations</li><li>• Use symbolic algebra to represent situations to solve problems</li><li>• Recognize and generate equivalent forms of simple algebraic expressions and solve linear equations</li></ul>
<b>Core Idea 2 Mathematical Reasoning</b>	<b>Employ forms of mathematical reasoning and justification appropriately to the solution of a problem.</b> <ul style="list-style-type: none"><li>• Invoke problem-solving strategies</li><li>• Use mathematical language to make complex situations easier to understand</li></ul>

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## Pen Pal

This problem gives you the chance to:

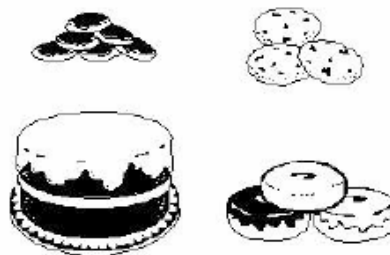
- use a formula
- 

Darla's European pen pal has sent her a recipe for a cake.

The recipe says to bake the cake at  $170^{\circ}$  Celsius but Darla's oven is in degrees Fahrenheit.

Darla finds a formula in her science book for changing degrees Celsius to degrees Fahrenheit:

$$F = \frac{9}{5} C + 32$$



1. At what temperature, in degrees Fahrenheit, should Darla bake her cake? \_\_\_\_\_  
Show your calculations.

2. Her recipe says that she should bake her cake at  $350^{\circ}$  F.  
What is this in degrees Celsius?

Show your calculations. \_\_\_\_\_

3. Darla wants to send a recipe to her pen pal.  
She decides to convert the temperature from degrees Fahrenheit to degrees Celsius.

Darla rearranges the formula so that she can easily convert  $^{\circ}$ F to  $^{\circ}$ C.  
Write the formula so that it begins with

C = \_\_\_\_\_

6

Pen Pal	Rubric	
The core elements of performance required by this task are: • use a formula  Based on these, credit for specific aspects of performance should be assigned as follows	points	section points
1. Gives correct answer: <b>338</b> Shows correct work such as: $9/5 \times 170 + 32 =$	1  1	  2
2. Gives correct answer: <b>176.6</b> (Accept 176 to 177) Shows correct work such as: $350 - 32 = 9/5C$ and $318 \times 5 \div 9$	1  1	  2
3. Gives correct answer: $C = 5/9 (F - 32)$ or equivalent  <i>Partial credit</i> $C = 5/9 F - 32$	2  (1)	  2
<b>Total Points</b>		<b>6</b>