**Make Your Own Intercepts**

In *Factored Intercepts*, you looked at functions that were expressed as products and used that form to find the x-intercepts of the functions. This assignment goes in the other direction—you are told what the x-intercepts should be, and you need to find a function that has them.

1. Write an equation for a function whose graph has exactly two x-intercepts, one at x = 4 and the other at x = 2.
2. Write an equation for a function whose graph has exactly two x-intercepts, one at x = -6 and the
3. other at x = 3.
4. Write an equation for a function whose graph has exactly three x-intercepts, one at x = -5, another at x = 1, and the third at x = 5.
5. Do you think it’s possible to create a function with any given set of x-intercepts? Explain your answer.
6. Do you think there is more than one function that fits the condition in Question 1? Can you find another such function? What about the conditions in Question 2 or Question 3?