## UNIT 4 • MODELING AND ANALYZING EXPONENTIAL FUNCTIONS
### Lesson 1: Creating Exponential Equations

### Problem-Based Task 4.1.2: Investing Money
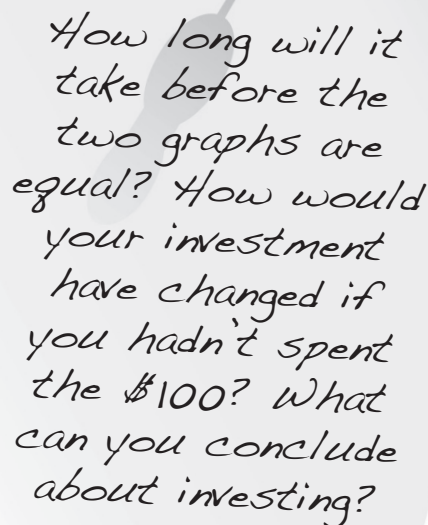
| SMP | |
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| 1 | 2 ✓ |
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You want to invest some money in a savings account. One bank offers an account that compounds the money annually at a rate of 3%. You have $2,000 to invest. As you are about to sign the papers, your friend texts you that a different bank offers a rate of 3.2% and this bank will compound the interest monthly. You decide to check out the second bank, but on your way there you spend $100. You end up choosing the second bank with the higher interest rate, but you want to know how spending $100 along the way affected your investment.

Create a graph showing how much interest you would have earned on $2,000 at the first bank, then create another graph showing how much interest you will earn on the money you invested in the second bank. Use the graphs to help you determine about how long it will take to earn back the $100 you spent. How long will it take before the two graphs are equal? How would your investment have changed if you hadn't spent the $100? What can you conclude about investing?

*How long will it take before the two graphs are equal? How would your investment have changed if you hadn't spent the $100? What can you conclude about investing?*