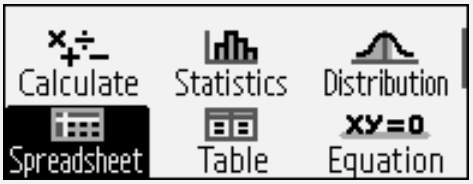
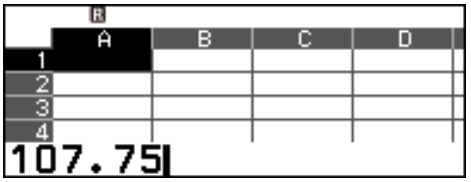
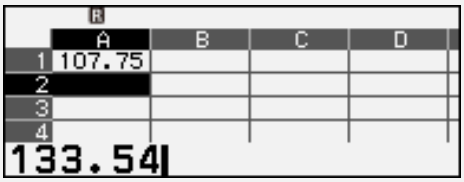
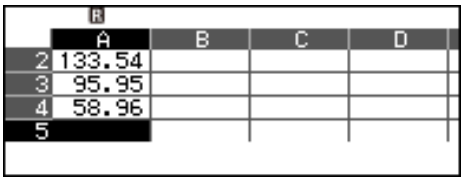
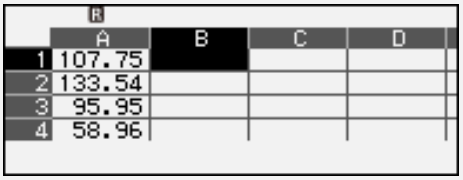
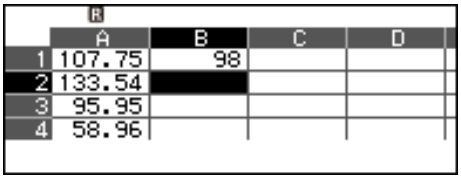
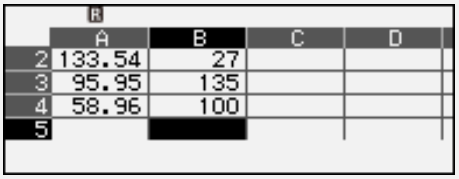
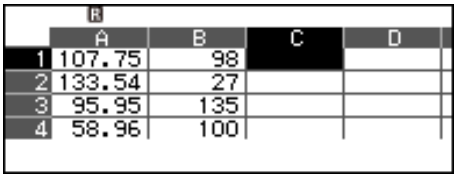
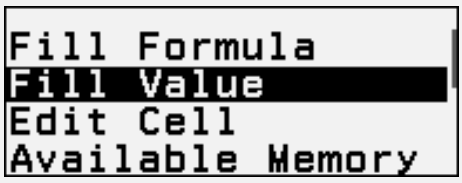
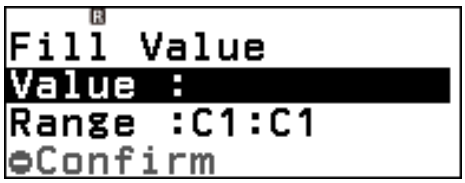
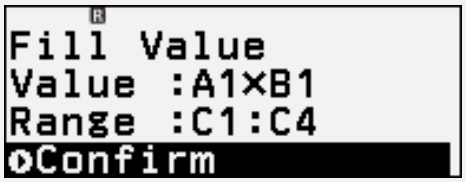
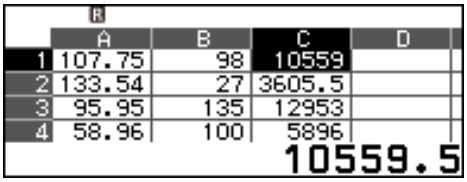
Unit 5: Lesson 17 – The Stock Market

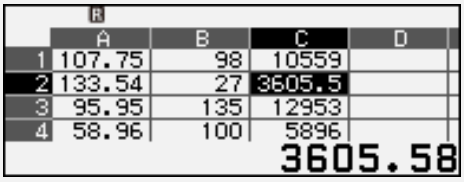
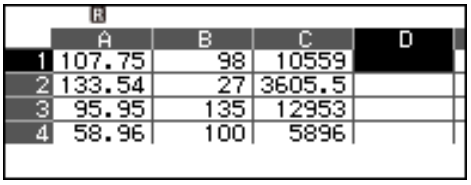
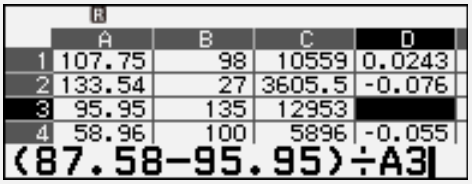
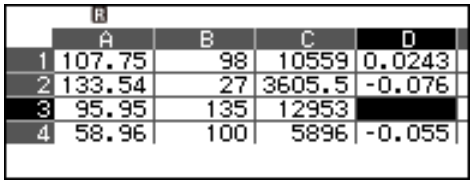
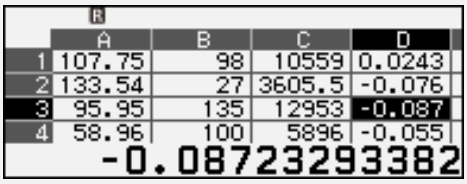
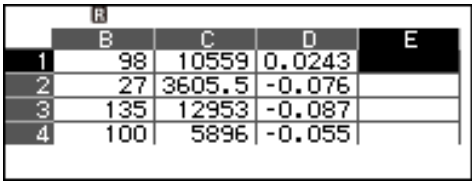
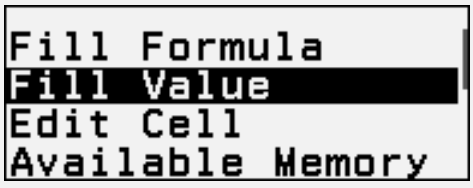
Activity 17.3: What is a Stock Portfolio?

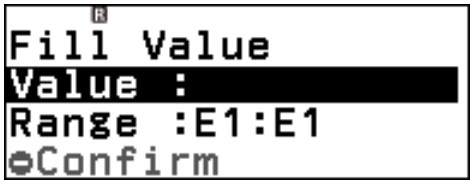
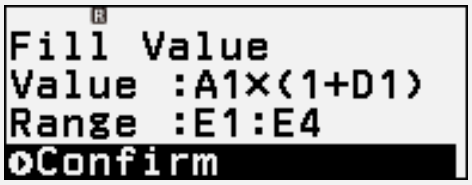
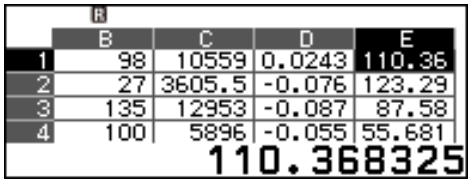
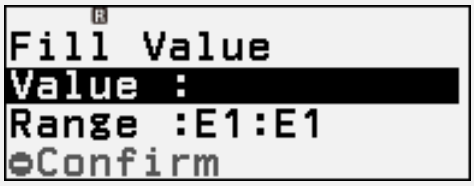
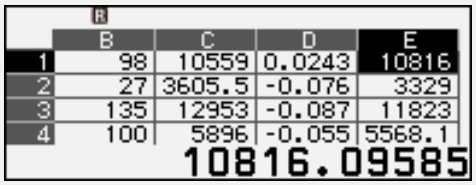
Skill: Use the Fill Value command in the Spreadsheet app to analyze a stock portfolio.

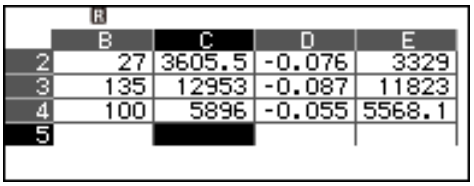
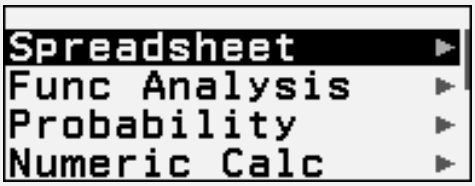
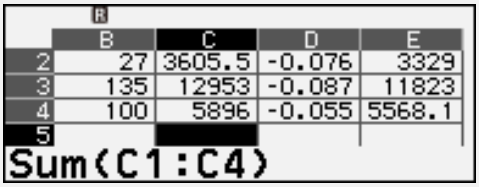
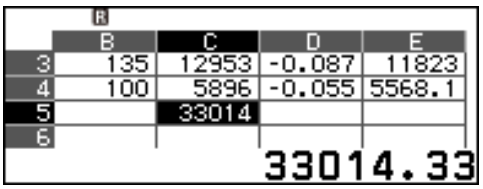
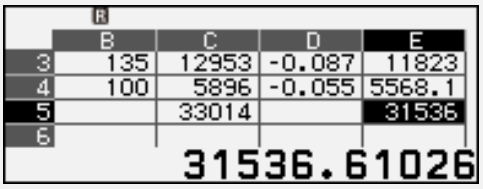
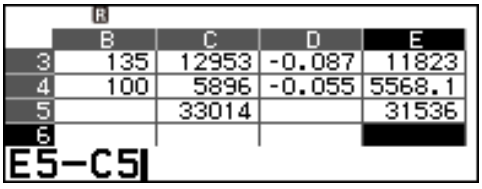
Activity Summary:
This activity introduces students to stock market portfolios. They will learn to calculate the value of shares in a company, how that value changes with price fluctuations, and the total value of an entire portfolio. Students will also explore both positive and negative absolute and percentage changes in share value. The Spreadsheet app on the calculator will be utilized to organize and analyze their stock portfolio data.

1. This task will utilize the **Spreadsheet app** to quickly calculate, view, and analyze values of stocks in a **portfolio**. Press ⌂ **– Home** and then use the **arrow keys** to highlight the **Spreadsheet app**.	
2. Press either OK or EXE to open the **Spreadsheet app**. Enter the beginning price per share in dollars in cells **A1:A4**. In **Cell A1**, enter **107.75** using the **number pad**.	
3. Press either OK or EXE to enter, and move to the next cell below, **Cell A2**. Enter the next stock price in dollars, **$133.54**, in **Cell A2**.	
4. Press either OK or EXE to enter and move to the next cell below. Continue this process to enter the remaining two original stock prices. The last value, representing **$58.96**, will be in **Cell A4** with **A5** highlighted.	
5. To quickly begin entering the corresponding final elevations in **Column B**, press **Scroll Up**, ⌃, to go directly to **Cell A1** followed by the **right arrow**, ›, to move to **Cell B1**. (The arrow keys can also be used to move to Cell B1.)	

6. Enter the four **number of shares purchased** in cells **B1:B4**. In **Cell B1**, enter **98** using the **number pad**. Press either [OK] or [EXE] to enter, and move to the next cell below, **Cell B2**.	
7. Continue entering the **number of shares purchased**, ending with **100** in **Cell B4**.	
8. To quickly move to the top of **Column C**, press **Scroll Up**, [⏫], to go directly to **Cell B1** followed by the **right arrow**, [▶], to move to **Cell C1**. In **Column C** the **total value** of each stock will be calculated.	
9. The **Fill Value** command can be used to complete **Column C** with the **total value** of each investment saved as a **value**. This will fill the **calculated values** into the cells. Press [⋯] **– Tools** to open the menu of options. Press the **down arrow**, [▼], to highlight **Fill Value**.	
10. Press either [OK] or [EXE]. The **total value** is the value of one share, **Column A**, multiplied by the number of shares purchased, **Column A**.	
11. For **Value :**, enter **A1×B1** by typing [⬆] [4] [1] [×] [⬆] [5] [1] followed by either [OK] or [EXE]. For **Range**, change the **second 1** to a **4**, our last row of data. **Right arrow**, [▶], to the far right, press the **Backspace key**, [⌫], and press [4]. Press either [OK] or [EXE] to enter.	
12. Press either [OK] or [EXE] to **Confirm**. Now **Column C** is filled with the **total value** of each investment purchased. Notice **Cell C1** shows the **value** of the cell at the **bottom of the screen;** not **A1×B1**.	

13. To finish completing the table for the first task, press the **down arrow**, ⓥ, from **Cell C1** through **C4** and record the values to the **nearest cent** in the **total value column**.	
14. For the second task, we will continue in the spreadsheet in **Column D**. Use the **arrow keys** to move to **Cell D1**.	
15. In **Column D**, enter the **price change percents** that are given as **decimal rates**, as shown to the right. Press either ⓞ or ⓔ to enter and move to the cell below. Press the **down arrow** to skip over **Cell D3** for now. When done, **arrow up twice** to highlight **Cell D3**.	
16. The **percent change** of the stock price for the **film company** can be calculated in **Cell D3** by entering an expression like in the **Calculate app**. In **Cell D3**, enter the **change in price divided by the original price**. Either **retype** the **original price** each time or enter its cell name, **A3**.	
17. Press either ⓞ or ⓔ to enter. Press the **up arrow** to highlight **Cell D3**. This stock price changed by approximately **-8.27%**. The width of the cells is **limited**, but the **exact values** are stored in the **memory** and can be seen at the **bottom of the screen** by **highlighting** a cell with the **arrow keys**.	
18. In the **next column** use **Fill Value** to **calculate** the **new price** of each investment. Use the **arrow keys** to move to **Cell E1**.	
19. Press ⓞⓞⓞ **– Tools** to open the menu of options. Press the **down arrow**, ⓥ, to highlight **Fill Value**.	

20. Press either [OK] or [EXE]. The **new share price** is the old share price, **Column A**, **multiplied by** the quantity **1 plus** the rate of change of the price, **Column D**.	
21. For **Value :**, enter **A1×(1+D1)** by typing [▲] [4] [1] [×] [(] [1] [+] [▲] [1] [1] [)] followed by either [OK] or [EXE]. For **Range**, change the **second 1** to a **4**, our last row of data. **Right arrow**, [▶], to the far right, press the **Backspace key**, [◀], and press [4]. Press either [OK] or [EXE] to enter.	
22. Press either [OK] or [EXE] to **Confirm**. Now **Column E** is filled with the **new price** of each investment purchased. The values in the spreadsheet are **truncated**. View the **exact values** with the **arrow keys** and round to the **nearest cent** to enter in the **table**. **Return to Cell E1** when completed.	
23. The **Spreadsheet app** is limited to five columns. Since the **new prices** are written down in the **table**, we will use **Column E again** to calculate the **new total values** of each investment. Press [∞] **– Tools** to open the menu of options. Press the **down arrow**, [▼], to highlight **Fill Value**.	
24. For **Value :**, enter **A1×B1×(1+D1)** by typing [▲] [4] [1] [×] [▲] [5] [1] [×] [(] [1] [+] [▲] [1] [1] [)] followed by either [OK] or [EXE]. For **Range**, change the **second 1** to a **4**. **Right arrow**, [▶], to the far right, press the **Backspace key**, [◀], and press [4]. Press either [OK] or [EXE] to enter.	
25. Record these **four new total values** for **each investment** in your table. View the **exact values** at the **bottom** of the screen and **round** to the **nearest cent**.	

26. The last part of the task is to determine if the **entire portfolio increased** or **decreased** in value over the year. Use the **arrow keys** to move to **Cell C5**.	
27. Use the **Sum command** to find the **original value** of the **portfolio**. Press the **Catalog button**, ⓫. **Spreadsheet** is highlighted at the top of the menu as we are currently in the **Spreadsheet app**.	
28. Press either ▷, ⓞⓚ, or ⓔⓧⓔ. Press the **up arrow**, △, to highlight **Sum**.	
29. Press either ⓞⓚ or ⓔⓧⓔ to select. Enter **C1:C4**. Type ⬆ ⑥ ① ⓫ ⓞⓚ ▽ ▽ ▽ ⓞⓚ ⬆ ⑥ ④).	
30. Press either ⓞⓚ or ⓔⓧⓔ to enter. Press the **up arrow**, △, to move back to **Cell C5**. The **original portfolio** was worth **$33,014.33**.	
31. Use the **arrow keys** to move to **Cell E5**. **Repeat Steps 27-30**, replacing each **C**, ⬆ ⑥, with an **E**, ⬆ ②. The **portfolio** a **year later** was worth **$31,536.61**.	
32. Press the **down arrow**, ▽, to move to **empty cell E6**. The net change in value is the **final value**, **E5**, **minus** the **original value**, **C5**. Type ⬆ ② ⑤ ⊖ ⬆ ⑥ ⑤.	
33. Press either ⓞⓚ or ⓔⓧⓔ to enter. Press the **up arrow**, △, to move back to **Cell C5**. The negative value indicates a loss. Over the year, the **portfolio decreased** in **value** by **$1,477.72**.