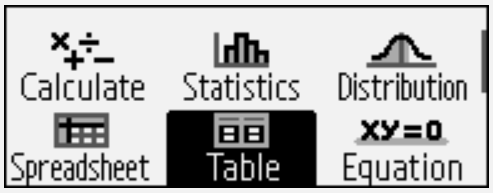
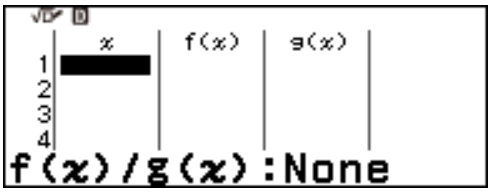
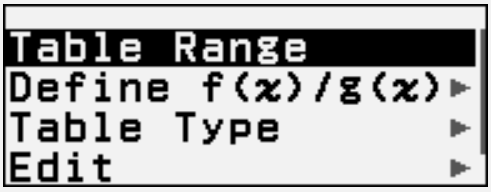
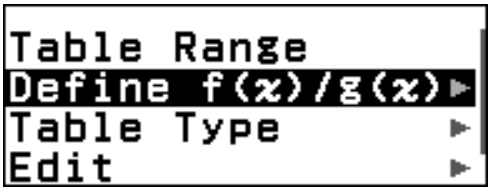
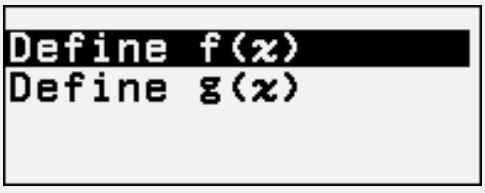
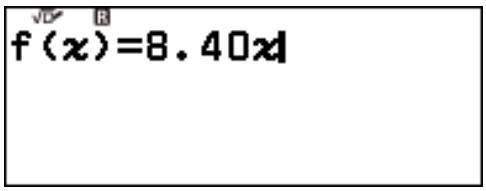
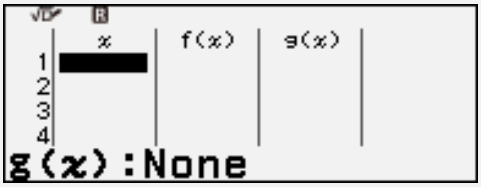
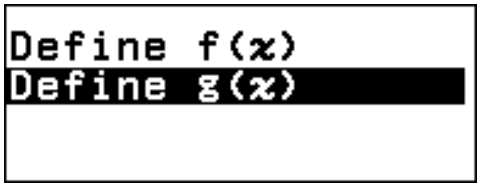
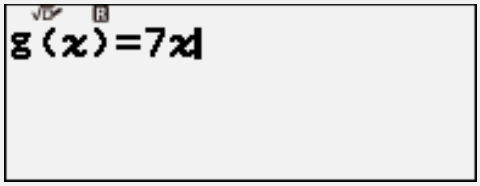
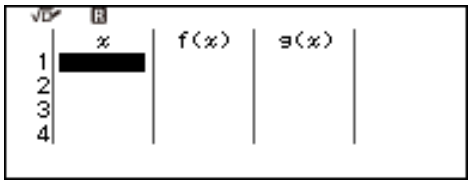
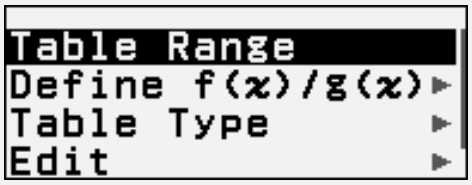
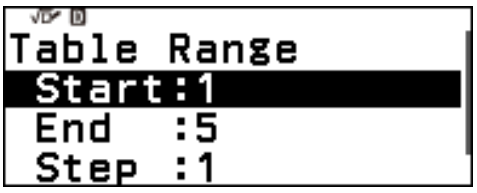
Unit 3: Lesson 4 – Comparing Proportional Relationships

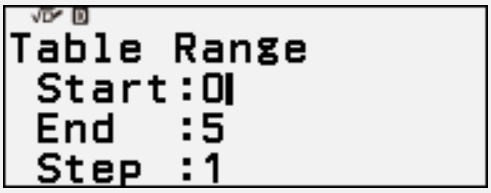
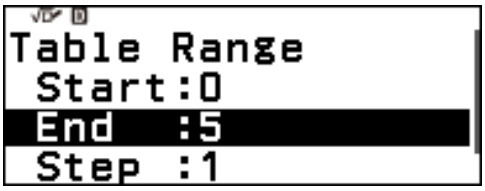
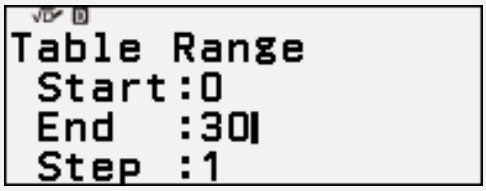
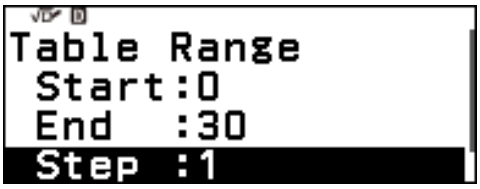
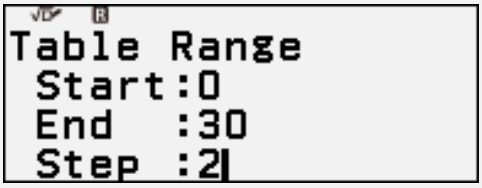
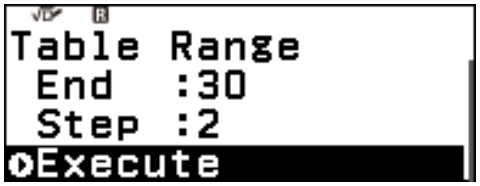
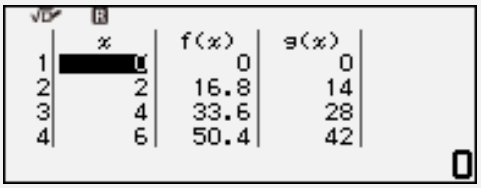
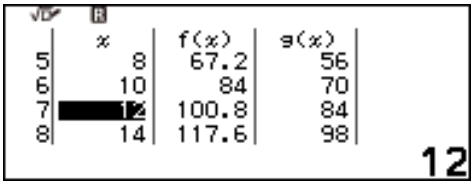
Activity 4.2: Comparing Two Different Representations

Skill: Use the Table app to create a table and view a graph on www.ClassPad.net.

Activity Summary:
Situations involving proportional relationships may be given verbally, using values listed in a table, a rule/equation that models the situation or from a graph. Students need to be able to find the rate of change from all representations to be able to predict values for each situation. Input values to obtain a desired output can also be found from each representation. A graph can be quickly viewed on internet enabled devices by scanning a QR Code on the calculator to www.ClassPad.net.

1. A table of values can be created in the **Table app** if we know the equation or function which models the situation. Press ⌂ **– Home** and then use the arrow keys to highlight the **Table app**.	
2. Press either OK or EXE to open the **Table app**.	
3. In the first task, **Elena**'s babysitting earnings are given by the equation $y = 8.40x$ where x represents the hours she worked**. Jada** earns **$7/hr** mowing lawns. An equation of her earnings would be $y = 7x$. Press the **TOOLS button**, ⋯, to view the **Table settings**.	
4. Press the **down arrow**, ▽, to highlight **Define *f*(*x*)/*g*(*x*)**.	
5. Press either OK, EXE, or ▷ to define the rules/equations for the table.	

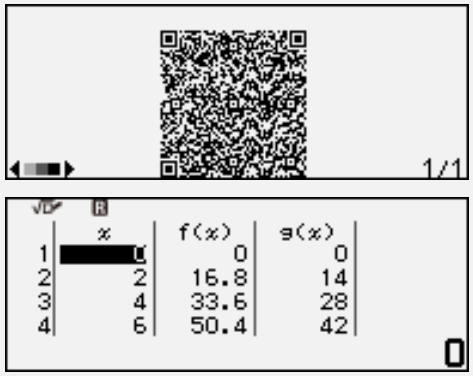
6. Press either [OK] or [EXE] to define our first equation, **Elana's earnings**, for ***f*(*x*)**. Remember, ***f*(*x*)** is another way of writing an output, ***y***. Her earnings were modeled with $y = 8.40x$. Type [8] [.] [4] [0] [X].	
7. Press either [OK] or [EXE] to enter. Next define ***g*(*x*)** for **Jada's earnings**.	
8. Repeat **Steps 3** through **5**. Now press the down arrow, [▼], to highlight **Define *g*(*x*)**.	
9. Press either [OK] or [EXE] to define our second equation, **Jada's earnings**, for ***g*(*x*)**. Remember, ***g*(*x*)** is another way of writing an output, ***y***. Her earnings were modeled with $y = 7x$. Type [7] [X].	
10. Now that both ***f*(*x*)** and ***g*(*x*)** are defined, the next step is to set the range of our table inputs, ***x***.	
11. Press the **TOOLS button**, [⋯], to view the **Table settings**.	
12. First is the **Table Range**. Here we can set the ***x*** values for our table. Press either [OK] or [EXE]. **Note:** The default values for **Start**, **End**, and **Step** are **1**, **5**, and **1** as shown.	

13. **Start** is highlighted. This number will be the first ***x*** value in the table. To change this to **0**, press the ⓪ key.	
14. Press either OK or EXE to enter the **Start** value and move the highlighting to **End**.	
15. **End** sets the last value of ***x*** in the Table. Enter **30** by typing ③⓪.	
16. Pressing either OK or EXE will enter that value for the **End** value and move the highlighting to **Step**.	
17. **Step** sets the distance to the next ***x*** value in the table. Enter ②.	
18. Press either OK or EXE to enter the **Step** value and the highlighting moves to **Execute**.	
19. Press either OK or EXE to view the table of values.	
20. To view their earnings after working **12 hours**, press the **down arrow** ⓥ until the row with **x=12** is shown.	

21. The **rate of change** for each situation can be found from either the **rule**, a **table**, or a **graph**. A graph of ***f*(*x*)** and ***g*(*x*)** can be viewed by following the **QR code** to **ClassPad.net**.

    To obtain the **QR Code**, press ⬆, ⓧ and **scan** with an internet enabled device.

    When finished with the QR Code, press the ↩ **key** to return to the table.



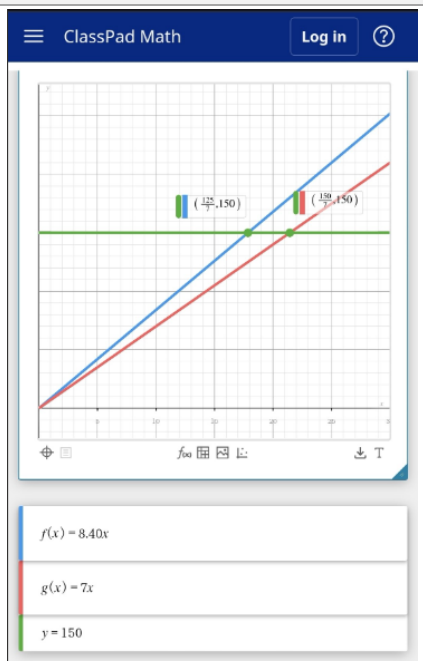
22. The **hours** for each to **earn $150** can be found from the graph on **ClassPad.net**.

    Click on the graph to view the bottom tool bar. Now, click on the ***f*(*x*) icon**. This will add an entry line under the ***f*(*x*)** and ***g*(*x*)** **rules** imported from the **QR Scan**.

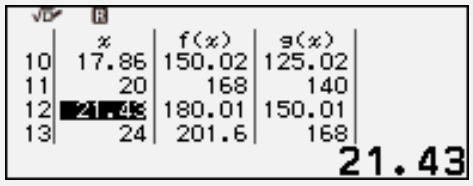
    Type **150**, **Execute** and the graph of ***y* = 150** will be added to this graph.

    Now, the values where they intersect may be **estimated** by hand or found in **exact** form.

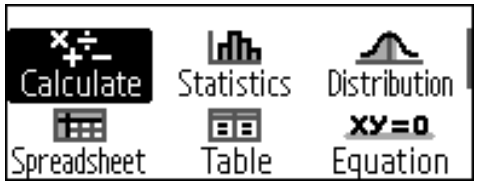
    To find the **exact intersection**, click each graph's intersection with **y=150**.



23. The **hours** for each to **earn $150** can also be or **estimated** from the table. The ***x*-values** can be edited in the table until a value close to **$150** can be found for each.



24. The **hours** for each to **earn $150** can be **calculated** directly from the equation. Press ⌂ **– Home** and then use the arrow keys to highlight the **Calculate app**.



25. Solving the hours to earn **$150** for each **proportional relationship** can be found by dividing **$150** by each **hourly rate**. **Elana** needs to babysit for nearly 18 hours to earn $150. **Jada** must mow lawns for about 21½ hours to earn $150.