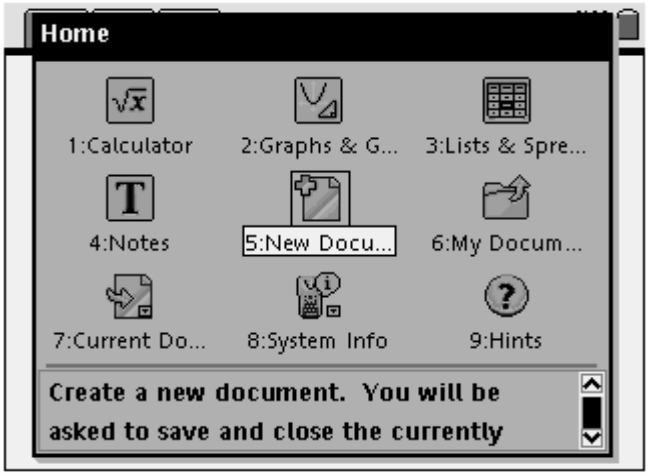
Dilations—Detailed Instructions

Materials

- TI-Nspire Math and Science Learning Handheld
- Dilations Worksheet

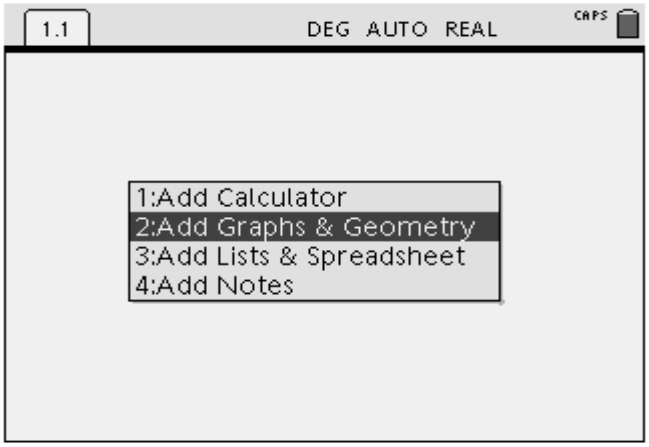
Introduction

This handout is designed to help students create an interactive diagram that gives a graphic and numeric representation of dilations.



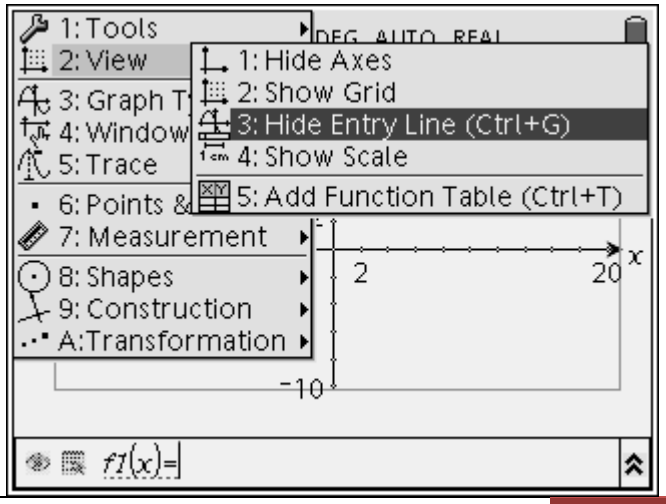
OPEN A NEW DOCUMENT AND ADD A GRAPHS & GEOMETRY PAGE

1. Press (home) and then 5: New Document.
2. You may be asked "Do you want to save changes to _____" Select either YES or NO by moving the Nav Pad appropriately and then selecting (enter).
3. Select 2: Graphs & Geometry.



HIDE THE ENTRY LINE AND SHOW GRID

4. Press (menu), choose 2: View, choose 3: Hide Entry Line (Ctrl+G).
5. Press (menu), choose 2: View, choose 2: Show Grid



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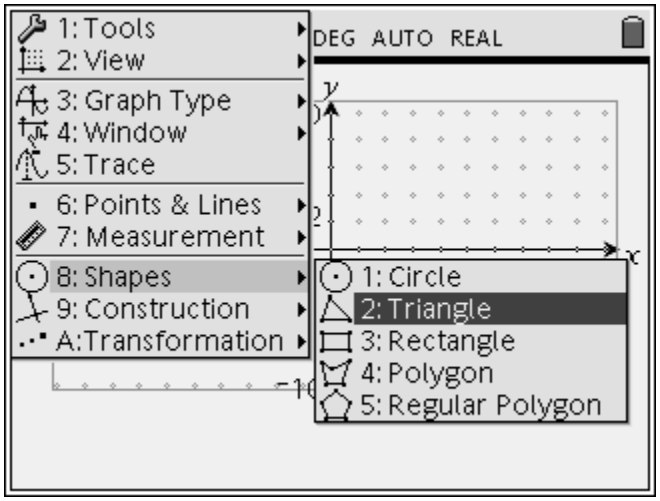
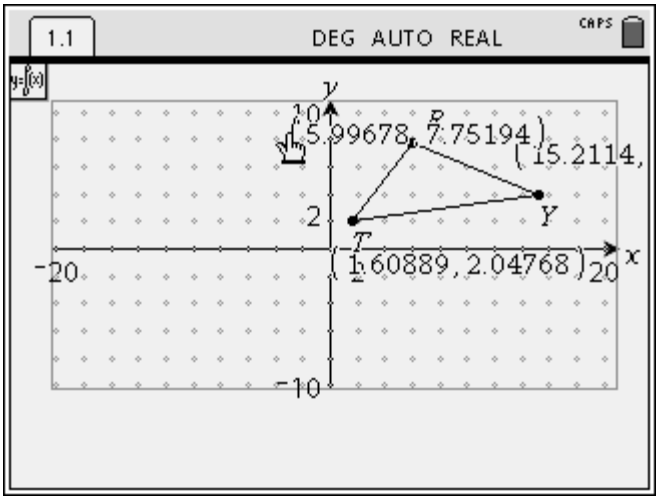
DRAW ΔTRY

6. Press (menu), choose 8: Shapes, choose 2: Triangle.
7. Move the pencil using the Nav Pad somewhere on the screen and press (·). Label that vertex T by pressing (T).
8. Move the Nav Pad somewhere else on the screen and press (·). Label that vertex R by pressing (R).
9. Move the Nav Pad somewhere else on the screen and press (·). Label that vertex Y by pressing (Y).
10. Move your curser away from vertex Y using the Nav Pad and press (esc).



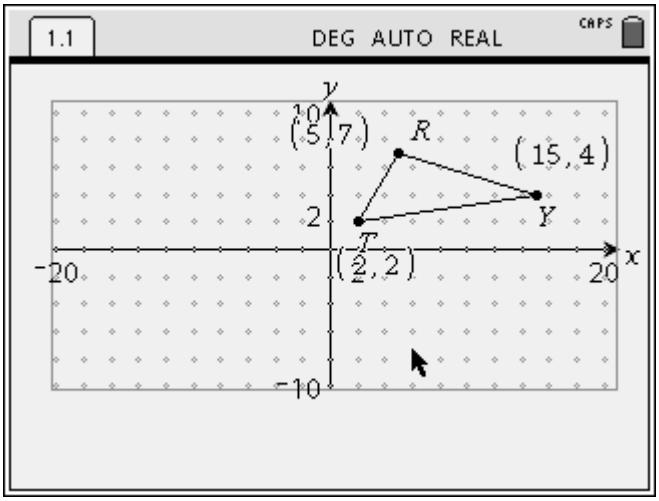
FIND THE COORDINATES OF ΔTRY

11. Press (menu), choose 1: Tools, choose 6: Coordinates and Equations.
12. Move the cursor to vertex T until the point is blinking and the ghosted coordinate appears. Press (·).
13. Move the cursor until the ghosted coordinate is where you would like it and press (·).
14. Move the cursor over vertex R, press (·), place the ghosted coordinate where you want it and press (·).
15. Move the cursor over vertex Y, press (·), place the ghosted coordinate where you want it and press (·).
16. Press (esc).



ADJUST COORDINATES TO INTEGERS

17. Move the cursor over the x-coordinate of any of the vertices until the cursor changes into ☜ and the ghosted coordinate is blinking.
18. Press (·) two times.



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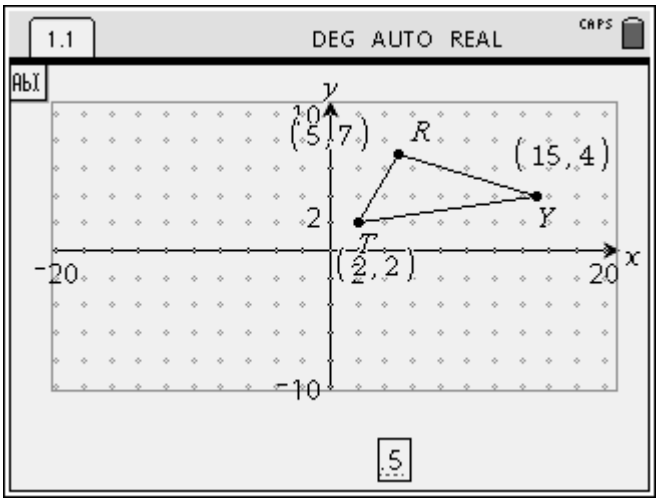
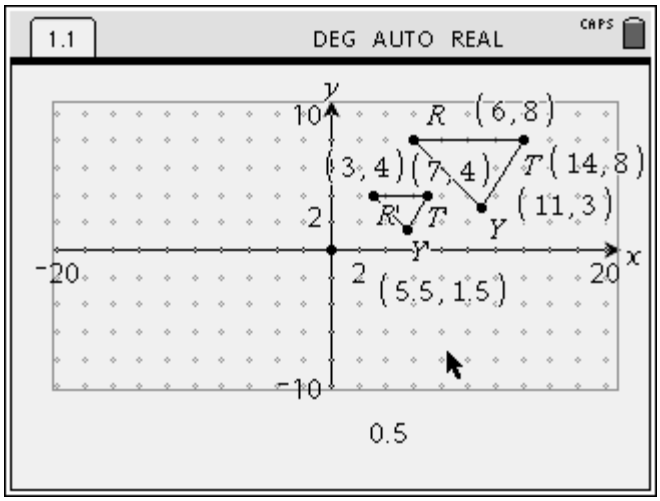
19. Delete the coordinate by repeatedly pressing clear.
20. Type an integer for the x-coordinate.
21. Press enter.
22. Repeat the process for the remaining 5 x- and y-coordinates.

DILATE ΔTRY WITH CENTER (0, 0) AND A SCALE FACTOR OF 0.5



23. Press menu, choose 1: Tools, choose 5: Text.
24. Move the cursor to the empty space at the bottom of the page and press ⚙. Type .5 and then press enter.
25. Press menu, Choose A: Transformation, choose 5: Dilation.
26. Move the cursor over ΔTRY until it is flashing and press ⚙.
27. Move the cursor over the origin until and press ⚙ clear
28. Move the cursor over .5 at the bottom of the screen until it is highlighted and flashing and press enter.
29. Press esc.

LABEL THE NEW VERTICES AND FIND THEIR COORDINATES



30. Press menu, choose 1: Tools, choose 5: Text
31. Move the cursor over the new vertex that corresponds with T until it blinks.
32. Press ⚙. Type T'.
33. Repeat this process for the vertices that correspond with R and Y.
34. Use the process described in steps 12 – 17 to find the coordinates of ΔT'R'Y'.