

**Action**

- Brief discussion of re-view of O&B #3
- Another rationale for radian measure
  - What is a degree? (1/360th of a circle's circumference)
  - Look at unit circle in degrees (use GSP sketch)
    - Look at the length of  $\sin(40^\circ)$ . What, approximately, is the length of  $\sin(40^\circ)$ , in degrees?  
*Approximately  $36^\circ$*
    - What, then, is an approximate value of  $\cos(\sin 40^\circ)$ ?  
*Approximately 0.80*
- On a calculator:
  - Calculate  $\sin(40^\circ)$  [0.642788]
  - What does 0.642788 stand for?
  - Calculate  $\cos(0.642788)$  [ $\cos(\sin 40^\circ)$ . You get 0.9999].
  - Is this right?
  - What is going on?
- In what way are  $f(x) = 5 - 2x$  and  $f(\Theta) = 5 - 2\Theta$  both linear?
  - Is the graph of  $r=2$  a line? Why or why not?
  - Is the graph of  $r=1/\sin(\Theta)$  a line? Why or why not?
  - Is the graph of  $\Theta = 3$  a line? Why or why not?
  - Is the graph of  $x = 4$  a line? Why or why not?
- What is/are the criteria for a function to have a line as its graph independently of the coordinate system in which you graph it?
- Culmination of trig: Design a 5-day unit logic

**Reason**

Bring out the importance of covariation

The calculator is assuming that 0.642788 is in degrees, when in fact it is radians.

Raise the issue of what the essence of "linear" is

Constant rate of change of the dependent variable with respect to the independent variable.