Algebra 1 – Mixed Six – Using the calculator to complete this task. Calculator-Active

Round your answers to the nearest tenth.

## 1. Factual Recall

Use your calculator to approximate the following.

a) $\sqrt{42.5}$

b) $(-2.4)^4$

c) $\sqrt[3]{20}$

d) $\frac{24}{7}$

## 2. Carry out a Procedure

You are shopping for a new coat. You look at the selection that is marked down 30% and find exactly what you want. The coat is on sale for \$76.30. What was the original cost of the coat?

## 3. Classify a Mathematical Object

For each pair of linear equations, use your calculator to determine if they represent functions with:

I. One solution
II. Infinite solutions
III. No Solution

| I/II/III | Pair |
|---|---|
| | $y = 2x - 3$<br>$y = -4x + 2$ |
| | $y = 2x - 3$<br>$4x - 2y = 1$ |
| | $y = 2x - 3$<br>$4x - 2y = 6$ |

## 4. Prove, Show, Justify

Graph the linear function $y = \frac{1}{2}x - 2$ on your calculator.

Find the rate of change between the points with *x*-coordinates of –4 and 0.

Also find the rate of change between the points with *x*-coordinates of –4 and 6.

Explain why these rates of change are equal.

## 5. Extend a Concept

The formula for the volume of a cone is $V = \frac{1}{3}\pi r^2 h$. If a cone has a volume of 220 cubic inches and a height of 10.4 inches, what is the radius of the cone?

## 6. Critique a Fallacy

Your class is given the following table of values:

| $x$ | $y$ |
|---|---|
| –2 | –7 |
| 1 | 4 |
| 0 | –1 |
| 2 | 2 |
| –2 | 5 |

Susan says that the table represents a linear function.
Tom says that the table does not represent a function.
Sam says that the table represents a nonlinear function.

Which student is making the correct statement and why?

Vicki Carter, Retired from West Florence HS, Florence, SC