**Task A**
My brother asked me to choose any number and multiply it by 3. After that, he had me add six, then subtract the number I chose, and finally, divide the result by 2. I told him what I got, and he was able to guess my number. How did he do it?

**Task B**

Notice that



The three examples suggest the following statement: When a positive integer that ends in the digit 5 is squared, the resulting integer ends in 25. Explain why this statement is always true. (NAEP)

**Task C**

The expression represents the temperature of ice-cream *t* minutes after it is taken out of the freezer, where *a* and *b* are positive constants. Explain why the temperature is always greater than *a*.

**Task D**

How could the diagram be used to show

that ?



**Task F**

Suppose we have graphed a linear equation of the form y=mx+b, and that m is irrational while b is rational, and consider all the points on the graph. In how many of the points will both x and y coordinates be rational? Explain.

**Task E**

Suppose we have graphed a linear equation of the form y=mx+b, and that m is rational while b is irrational, and consider all the points on the graph. In how many of the points will both x and y coordinates be rational? Explain.