More Proofs!

Decide whether the following statements are always false, sometimes true, or always true. Explain why.

- a. Tomorrow is Thursday
- b. There are 35 days in this month
- c. If you double a whole number you get an even number
- d. If you double a number you get an even number
- e. If you add 1 to an odd number, you get an even number
- f. If you multiply two off numbers you get an odd number

Prove: The sum of any three consecutive even numbers if always a multiple of 6.

Prove: The product of any three consecutive even numbers is always a multiple of 8.

Prove: If you multiply to odd numbers, you get an odd number.

Prove: If you add two consecutive odd numbers, the result will be a multiple of 4.

Prove: If you multiply two consecutive odd numbers, the result will be a multiple of 4.

Take any three consecutive numbers and add them together.

- a. What do you notice about their sum?
- b. Prove that this always happens.