Definitions:

- Multiplication – Repeated addition of the same number
- Exponent or Power – A symbol written to the upper right of a base number that indicates how many times to use the base as a factor.
- Base – The number that is repeatedly multiplied.
- Square – A 1 × 1 square.
- Formula – An equation that describes a procedure.
- Commutative property of multiplication - Changing factor order will not affect the product.
  - $a \cdot b = b \cdot a$
- Associative property of multiplication - Grouping three or more factors differently will not affect the product.
  - $(ab)c = a(bc)$
- Multiplicative property of 0 - The product of 0 and a number is always 0.
  - $0 \cdot n = 0$ and $n \cdot 0 = 0$
- Multiplicative property of 1 - The product of 1 and a number is always the number.
  - $1 \cdot n = n$ and $n \cdot 1 = n$
- Distributive property - If a sum or difference is multiplied by a number, then each number inside parentheses may be multiplied by the number outside the parentheses.
  - $a(b+c) = ab + ac$ and $a(b-c) = ab – ac$

Objective 1: Multiply whole numbers

- $2 \times 34$
- $503 \times 62$
- $42,109 \times 7104$

Objective 2: Solve applications involving multiplication.

- The human heart averages about 70 beats each minute.
  - How many times would the heart beat in an hour?
  - How many times would the heart beat in a day?
  - Week?
  - Year?
  - 60 year life time?
Objective 3: Evaluate numbers in exponential form.

- Write \(3^6\) in factored form, then evaluate.

Objective 4: Write in exponential form.

- Write \(5\cdot5\cdot5\cdot5\cdot5\) in exponential form.
- Write 1,239,405 in expanded notation using powers of 10.

Objective 5: Solve applications.

- A standard football field measures 100 yards by 50 yards, not counting the end zones. Find the area of a standard football field.