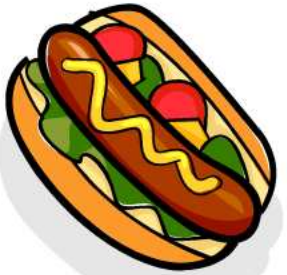
MM2A3:

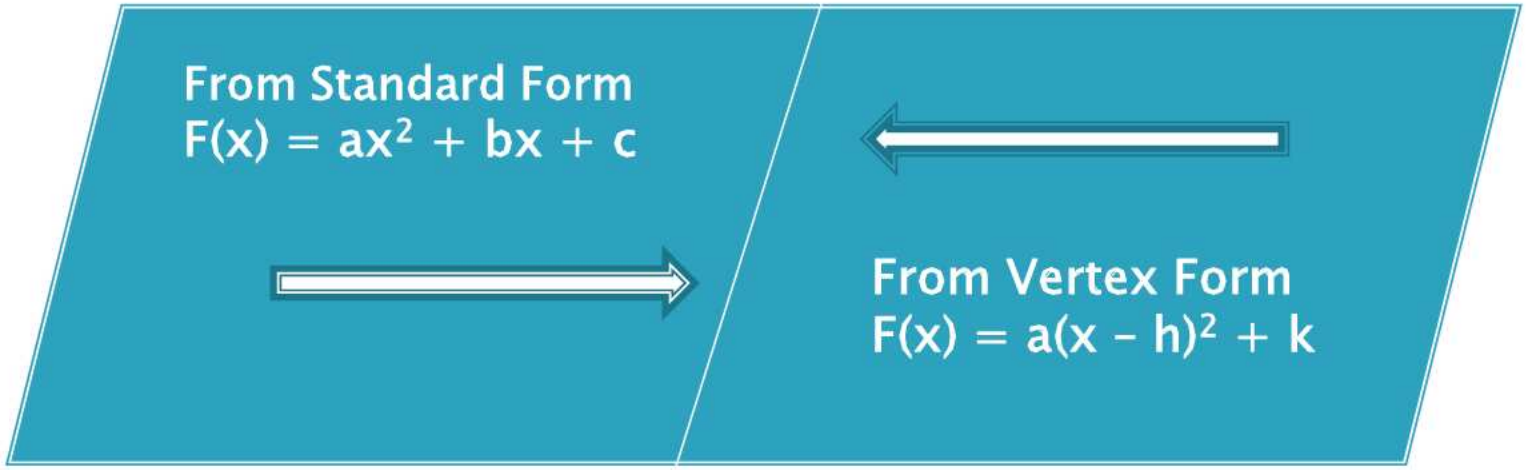
- a. Convert between standard and vertex form.

Flip Chart for Quadratic Forms:



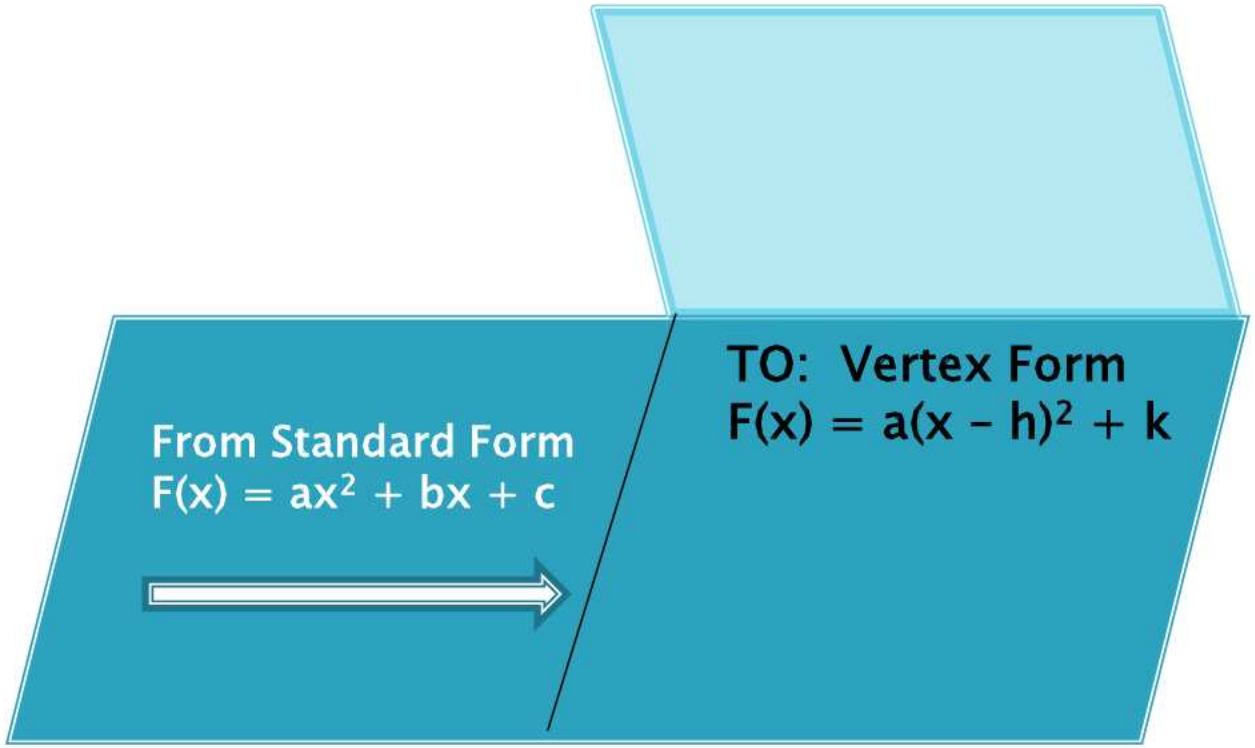
- Fold paper hot dog style.
- Fold paper hamburger style.
- Open paper back up once and cut on hamburger line until you reach hot dog line.
- On outside of left hand flap write **FROM Standard form $y = ax^2 + bx + c$** with arrow pointing to right.
- On outside of right hand flap write **FROM Vertex form $y = a(x - h)^2 + k$** with arrow pointing left.

Flip Chart Quadratic Forms:



Flip Chart Quadratic Forms:

- Under Vertex form flap write…
  - **TO: Vertex Form $f(x)= a(x - h)^2 + k$**



Convert From Standard Form to Vertex Form:

1. Identify a, b, and c.
2. a = a
3. Find the vertex (h, k) where h is the x-value of the vertex and k is the y-value…

$$h = \frac{-b}{2a} \qquad k = \text{Substitute h in for x into the original equation}$$

4. Put a, h, and k into the equation.

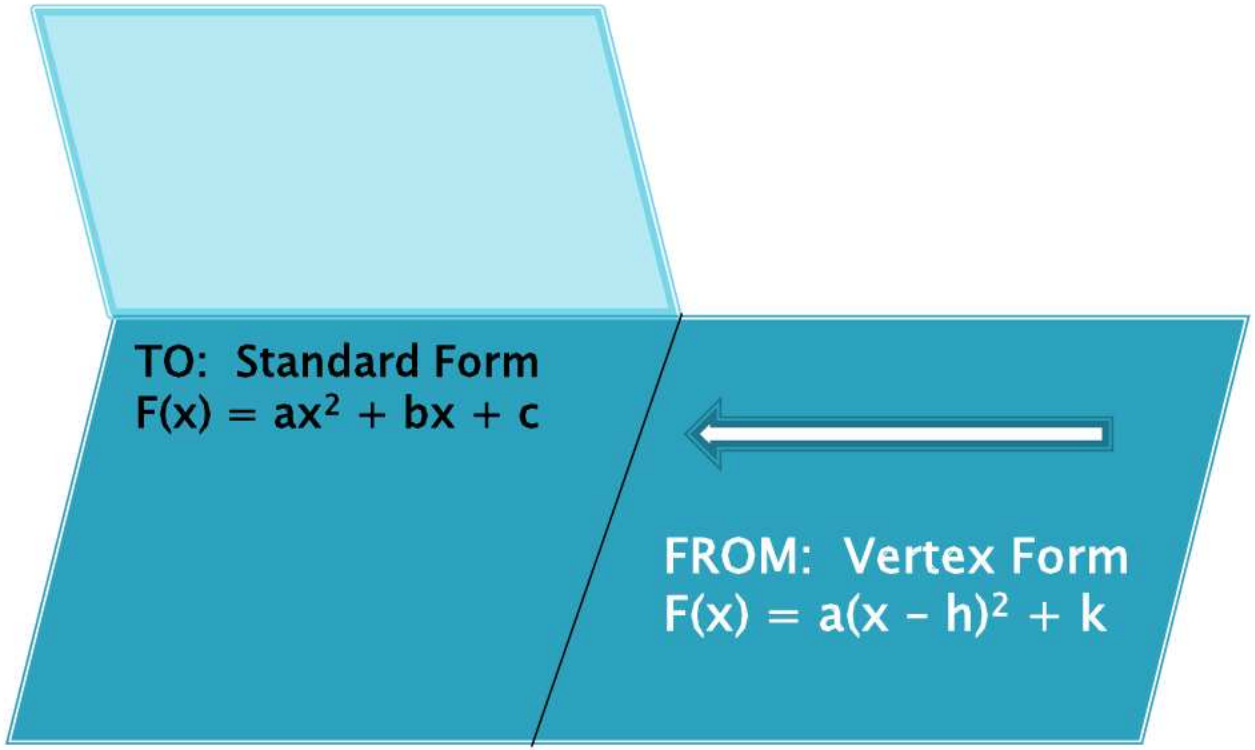
Examples:

1. Put $f(x) = x^2 + 4x + 5$ in vertex form.

2. Put $f(x) = 2x^2 - 6x - 1$ in vertex form.

Flip Chart Quadratic Forms:

- Under Standard form flap write…
  - **TO: Standard Form $f(x)= ax^2 +bx + c$**



Convert From Vertex Form to Standard Form:

1. Write parentheses twice and multiply together by using FOIL, box method, or distributive property. Make sure to combine like terms.
2. Distribute a.
3. Combine like terms again.

Examples:

1. Put $f(x) = (x + 3)^2 - 5$ in standard form.

2. Put $y = -3(x - 5)^2 + 1$ in standard form.