

## **QUADRATIC FUNCTIONS**

Quadratic: <https://www.youtube.com/watch?v=A3A7Bv-ElJU>

Domain/Range: <https://www.youtube.com/watch?v=nmMwY-CpBMY>

Quadratic transformations: <https://www.youtube.com/watch?v=YO40OB1DPWw>

### **Parabolas**

Parabola key features/vocab:

Opens down: <https://www.youtube.com/watch?v=yqseYUCduTE>

Opens up: <https://www.youtube.com/watch?v=H46QVUdbBn0>

### **Quadratic Forms**

Standard form: <https://www.youtube.com/watch?v=vphPafWDZkw>

Vertex form: <https://www.youtube.com/watch?v=y99lNRqLjBA>

Factored form: <https://www.youtube.com/watch?v=e-SfJiLh0k>

### **Ways to Solve/Finding Solutions**

Solutions by graphing: <https://www.youtube.com/watch?v=8Pk2VN6wzqU>

Solutions by Factoring:

[https://www.youtube.com/watch?annotation\\_id=annotation\\_2082265879&feature=iv&src\\_vid=1T-rsltsWnM&v=y0Zfzaj1x48](https://www.youtube.com/watch?annotation_id=annotation_2082265879&feature=iv&src_vid=1T-rsltsWnM&v=y0Zfzaj1x48)

Square root method: <https://www.youtube.com/watch?v=RMwoe8sRYvg>

Completing the Square: <https://www.youtube.com/watch?v=MVW9EoEiLgc>

Quadratic Formula: <https://www.youtube.com/watch?v=H5AM1bzqCQw>

### **Factoring**

GCF: [https://www.youtube.com/watch?v=UxBO7GXFh\\_Y](https://www.youtube.com/watch?v=UxBO7GXFh_Y)

$a = 1$ : <https://www.youtube.com/watch?v=Mso0lciztHk>

$a > 1$ : <https://www.youtube.com/watch?v=r1JAJfmRG5w>

Difference of Perfect Squares:

$a = 1$  [https://www.youtube.com/watch?v=AcCN\\_isD3PY](https://www.youtube.com/watch?v=AcCN_isD3PY)

$a \neq 1$  <https://www.youtube.com/watch?v=jmbg-DKWuc4>

### **Converting:**

Vertex to standard: <https://www.youtube.com/watch?v=z3vMeBv-wtg>

Standard to Vertex: <https://www.youtube.com/watch?v=FezeWsRrJz0>

### **Real-World Application**

Area Model: <https://www.youtube.com/watch?v=owR0ABAOQbE>

<https://www.youtube.com/watch?v=QAhYUBI1WW8>

Projectiles: <https://www.youtube.com/watch?v=TzRQSD3iQA4>

### **Quadratic Regression:**

DESMOS: [https://www.youtube.com/watch?v=cer\\_oSOgdIY](https://www.youtube.com/watch?v=cer_oSOgdIY)

NSPIRE: <https://www.youtube.com/watch?v=YyOmkTF07T4>