



WEEK 10





CHAPTER FOUR

- The Conics and Locus Problems



OUTLINE

- Parabola
- Hyperbola



PARABOLA



STANDARD EQUATION OF A PARABOLA



VERTEX AT ORIGIN



FINDING THE FOCUS OF A PARABOLA



FINDING THE STANDARD EQUATION OF A PARABOLA



APPLICATION



FINDING THE TANGENT LINE AT A POINT ON A PARABOLA



FINDING THE FOCUS AND DIRECTRIX OF A PARABOLA



THE LATUS RECTUM AND GRAPHING PARABOLAS



EXAMPLE



EXAMPLE



TRANSLATION OF PARABOLAS



GRAPHING A PARABOLA WITH VERTEX (H,K)



APPLICATION



FYI

- <https://edition.cnn.com/travel/article/most-amazing-bridges/index.html>
- <http://passyworldofmathematics.com/sydney-harbour-bridge-mathematics/>



HYPERBOLAS





HYPERBOLA CENTERED AT THE ORIGIN









EXAMPLE



EXAMPLE



EXAMPLE



HYPERBOLA NOT CENTERED AT THE ORIGIN



EXAMPLE



EXAMPLE



EXAMPLE



EXAMPLE



APPLICATION

Two microphones, 1 mile apart, record an explosion. Microphone A receives the sound 2 seconds before microphone B. Where did the explosion occur? (Assume sound travels at 1100 feet per second)



CONCLUSION

