



Card Sharks

Chapter 2nd Test - PreCalculus

Parabolas...

(Without using a graphing calculator...)

Find the vertex of the
following parabola:

$$y = x^2 - 6x + 11$$

(3, 2)

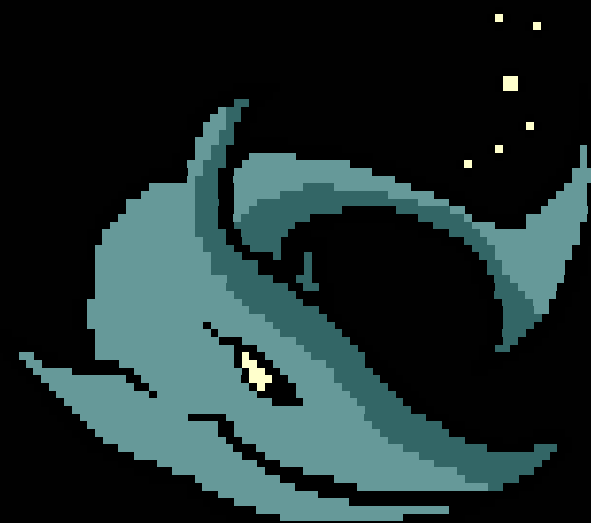
Parabolas...

(Without using a graphing calculator...)

Find the
point symmetric
with the y intercept:

$$y = x^2 - 6x + 11$$

(6, 11)



Application...

Suppose a ball follows the path

$$y = -x^2 + 95x + 500$$

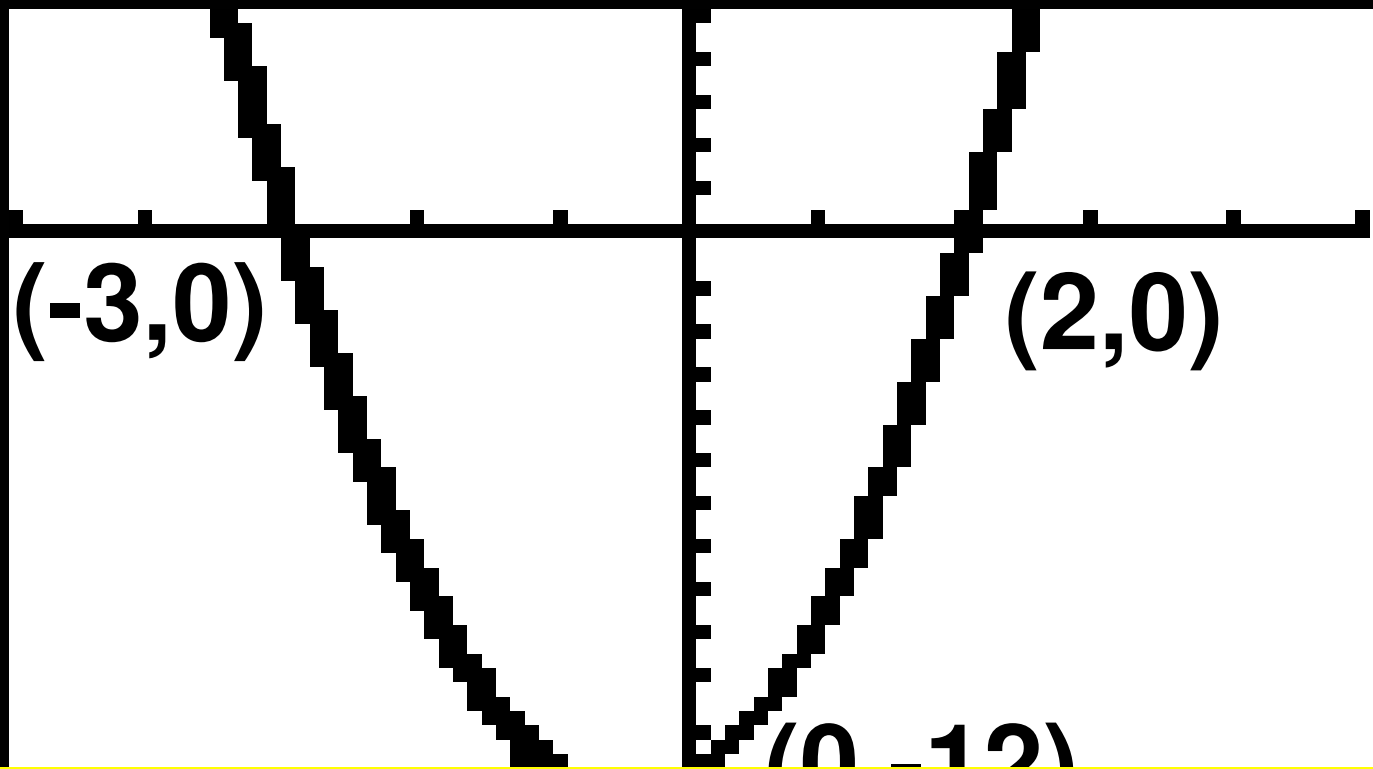
where x is the horizontal distance and y is the vertical distance.

How far does the ball travel horizontally before falling back to the ground?

$$x = 100 \text{ ft}$$

Writing Equations...


Does have dilation!!



$$y = 2x^2 + 2x - 12$$

Rational Equations...


Where is (are) the vertical asymptote(s) for


$$f(x) = \frac{x^2}{x(x-3)} + 2$$

$$x = 3$$

Rational Equations...

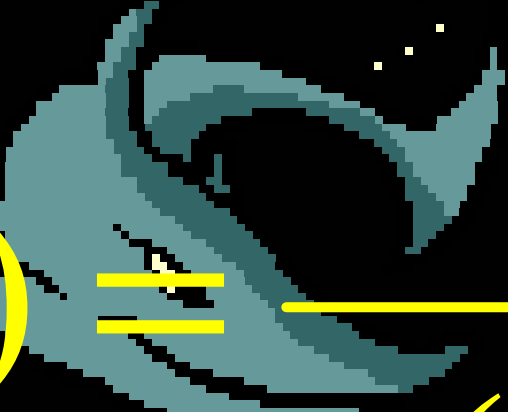
Where is the horizontal asymptote for


$$f(x) = \frac{x^2}{x(x-3)} + 2$$

$$y = 3$$

Rational Equations...

Where is the hole for


$$f(x) = \frac{x^2}{x(x-3)} + 2$$

$$x = 0$$

Rational Equations...

Find the slant
asymptote for

$$f(x) = \frac{3x^3 - 4x^2 + x - 5}{x^2}$$

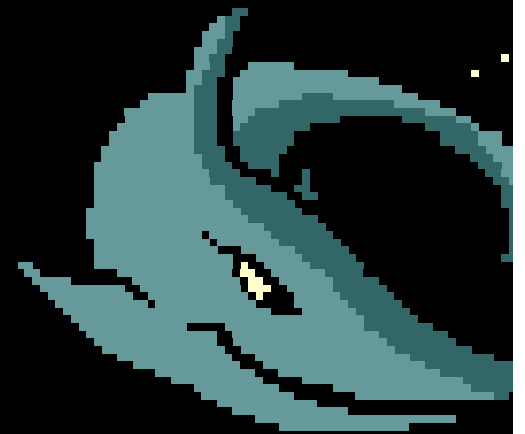
$$y = 3x - 4$$

Rational Equations...

Where is the
x intercept for

$$f(x) = \frac{ax + b}{c - x}$$

$$x = -b \div a$$



Rational Equations...

Write an equation that has the following attributes...

→ Vertical Asymptote: $x = -2$

→ Horizontal Asymptote: $y = 0$

→ Hole Discontinuity: $x = 0$

$$f(x) = \frac{x}{x(x+2)}$$

Discontinuity...

**Classify and locate the
discontinuity for**

$$f(x) = \frac{x}{(x+6)}$$

Infinite at $x = -6$

Infinity...

Draw a reasonable sketch
for



Circles...

Where is the **CENTER** of the circle given by:

$$x^2 - 6x + 9 + y^2 = 16$$

(3, 0)



Circles

Draw

Label

Label

