Week 11 Hw Tracker due

Complex Numbers ws (yellow)

Systems of Equations ws (pink)

3E and 3F Review (blue)

/30

Final Exam this Thurs-Fri (10% of your grade)

All quiz/test retakes due THIS THURSDAY by 3:15 pm

Tutoring M-Th 3-4:15 Room 208

WHITEBOARDS

Write the expression in radical form

$$(3n)^{\frac{2}{3}} = \sqrt[3]{(3n)^2}$$

$$\sqrt[3]{3n^2}$$

$$\sqrt[3]{3^2 n^2}$$

$$\sqrt[3]{9n^2}$$

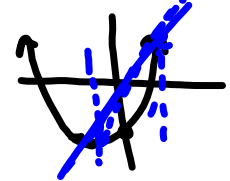# Write the expression in radical form

$$3n^{\frac{2}{3}} = 3\sqrt[3]{n^2}$$

$$-3n^{\frac{2}{3}}$$

$$\sqrt[3]{(3n)^2}$$

Simplify

$$(-4 + 3i) + (5 + 5i)$$

$$+ \ \frac{5 + 5i}{1 + 8i}$$

Find the average rate of change over the given interval

$$\frac{-2}{2(1)} = (-1, -7) \quad a, b$$

$$f(x) = x^2 + 2x - \underline{6}, \quad [-1, 3]$$

$$\frac{f(b) - f(a)}{b - a} = \frac{f(3) - f(-1)}{3 - (-1)} = \frac{9 - (-7)}{4}$$

$$f(3) = 3^2 + 2(3) - 6 = 9$$

$$f(-1) = (-1)^2 + 2(-1) - 6 = -7$$

$$1 - 2 - 6$$

$$\frac{16}{4} = 4$$

A shot-put throw can be modeled using the equation
$y = -0.0241x^2 + x + 5.5$ where x is horizontal distance
traveled in feet, and y is the height in feet.

A - How high was the shot-put when it left the throwers hand?

5.5 ft

B - How high was the shot-put when it was 20 ft from the throwers hand?

$y = -0.0241(20)^2 + 20 + 5.5 \approx 15.86$ ft

Write the expression in exponential form

$$5\sqrt[3]{a^6}$$

$$5a^{\frac{6}{2}} = 5a^3$$

Write the expression in exponential form

$$\sqrt[4]{10x^9} = \sqrt[4]{10^1} \cdot \sqrt[4]{x^9}$$

$$= 10^{\frac{1}{4}} x^{\frac{9}{4}}$$

Find the product

$(7x - 5)(8x^2 + 3x + 3)$

$7x$	$56x^3$	$+21x^2$	$+21x$
-5	$-40x^2$	$-15x$	-15

$56x^3 - 19x^2 + 6x - 15$

Simplify

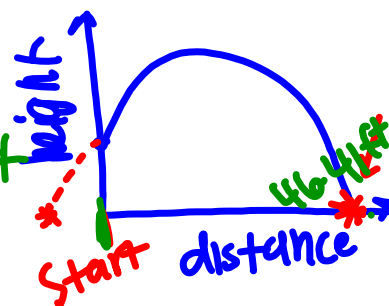$$3x^3y^{-2}z \cdot 4x^8y^2 = 12x^{11}z$$

$$x^{3+8}$$

$$y^{-2+2} = y^0 = 1$$

A shot-put throw can be modeled using the equation
$y = -0.0241x^2 + x + 5.5$ where x is horizontal distance
traveled in feet, and y is the height in feet.

A - How long was the throw?

$$\frac{-1 \pm \sqrt{1^2 - 4(0.0241)(5.5)}}{2(-0.0241)} = 46.41 \, ft$$

B - Give a realistic domain

$$[0, 46.41]$$

Simplify

$$5x^{\frac{1}{2}} \cdot x^{\frac{5}{2}} = 5x^{\frac{6}{2}} = 5x^3$$

Find the product

$(n + 3)^2$

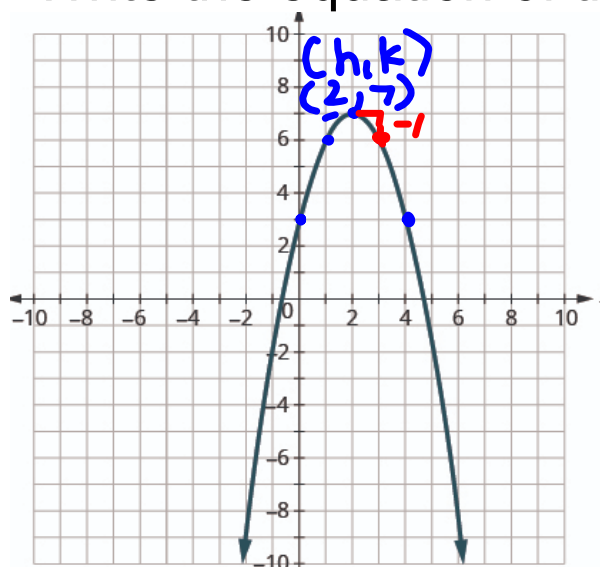$(n+3)(n+3) = n^2 + 3n + 3n + 9$

$(3n^2)^2$

$= n^2 + 6n + 9$

Simplify

$$\left(\frac{x^5 y^1}{x^{-3} y^7}\right)^4$$

$$x^{5+3} \ y^{1-7}$$

$$= x^8 y^{-6} = \left(\frac{x^8}{y^6}\right)^4$$

$$\frac{x^{32}}{y^{24}}$$

Write the equation of the quadratic in vertex form

(h, k)
$(2, 7)$

$$y = \underset{\sim}{-}(x-2)^2 + 7$$

Simplify

$$\left(m^{\frac{3}{4}} n^{\frac{3}{2}} \right)^{\frac{2}{3}}$$

$m^{\frac{6}{12}} n^{\frac{6}{6}} = m^{\frac{1}{2}} n$

A shot-put throw can be modeled using the equation
$y = -0.0241x^2 + x + 5.5$ where x is horizontal distance
traveled in feet, and y is the height in feet.

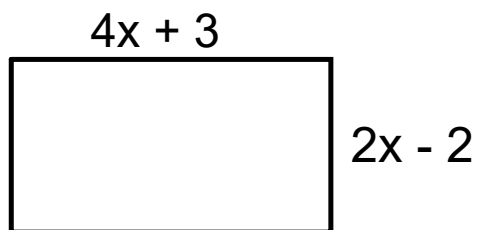A - How high did the shot-put go in the air?

B - Give a realistic range

Simplify

$$3\sqrt{196}$$

Factor

$$x^2 + 8x - 20$$

Find an expression that represents the area of the rectangle
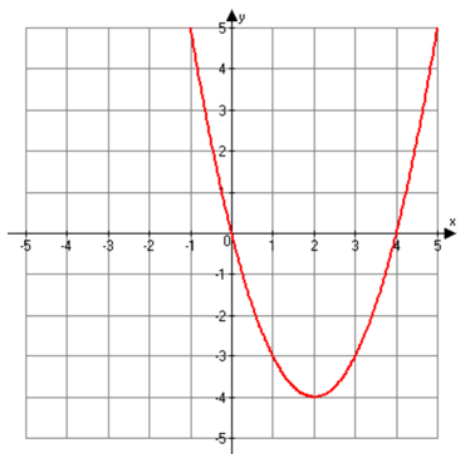
4x + 3

2x - 2

Factor
$$2a^3 + 10a^2 + 7a + 35$$

Simplify

$$\left(\frac{16a}{b}\right)^{\frac{3}{4}}$$

Find the average rate of change over the given interval

$[2,4]$

Find the x-intercepts

$$x^2 - 10x + 16 = 0$$

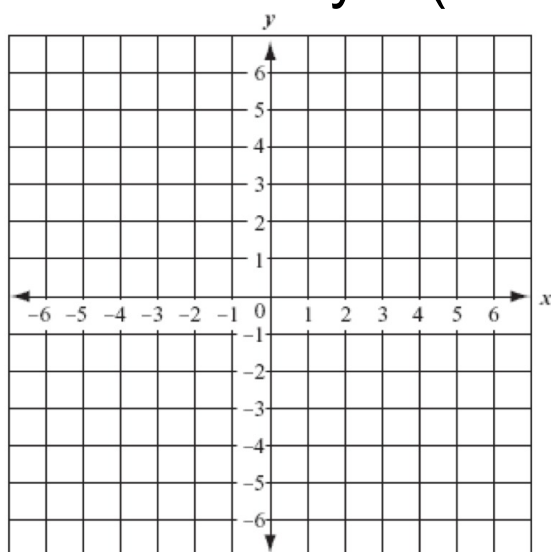Solve for x

$(x - 3)^2 - 10 = 15$

Simplify

$$\sqrt{-32}$$

Solve the system of equations

$$y = x - 2$$

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

Graph the function y = (x + 2)² - 5

Find the vertex and y-intercept of the function
$$y = -x^2 + x + 12$$

Vertex:

y-intercept

What are the x-intercepts of the function
y = (x - 1)(x + 3)

Write a quadratic function with solutions of
x = -4 and x = $\frac{3}{4}$ in standard form

Test Review due Thursday