The sheet on your table is an example of what a quality homework assignment might look like.

(when working on problems with a process)

After looking this over, return it to the front desk and then

Pick up the Warm Up

and do both sides

HW Taly

Pick Up the Warm Up

HW Help

1 Solve for m (in other words, re-arrange the equation to isolate m)

$$3(\mathbf{n}) = (3)\frac{7}{3}\mathbf{m} - 10(3)$$ or $$n + 10 = \frac{7}{3}m$$

Clear out the fractions ASAP

$$3n = 7m - 30$$

$$\frac{3n+30}{7} = \frac{7m}{7} \qquad \frac{3n}{7} + \frac{30}{7} = \frac{7m}{7}$$

$$m = \frac{3n+30}{7} \qquad m = \frac{3n}{7} + \frac{30}{7}$$

$$m = \frac{3}{7}n + \frac{30}{7}$$

$$\frac{1}{2}M \qquad \frac{M}{2}$$

2 Find the error in the solution at right. Explain what the error is and solve the equation correctly. Be sure to check your answer.

$$\frac{5}{x} = x - 4$$
$$x \cdot \frac{5}{x} = \cancel{x - 4}$$
$$5 = x - 4$$
$$\cancel{x = 9}$$

$$(x)\frac{5}{x} = (x)x - 4(x)$$

$$5 = x^2 - 4x$$
$$-5 \qquad\qquad -5$$

$$0 = x^2 - 4x - 5$$

$$0 = (x+1)(x-5)$$

$$\boxed{x = -1 \quad x = 5}$$

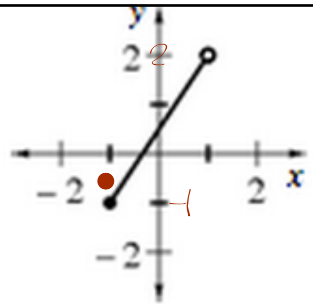
$a = 1 \quad b = -4 \quad c = -5$

$$x = \frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(-5)}}{2(1)}$$

$$x = \frac{4 + \sqrt{36}}{2} = \frac{4 \pm 6}{2}$$

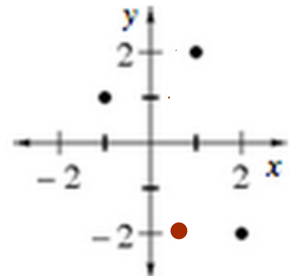
$$\frac{4+6}{2} = 5$$
$$\frac{4-6}{2} = \frac{-2}{2} = -1$$

3



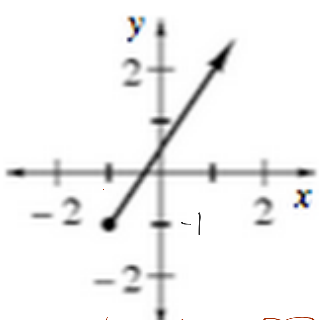
Domain: $-1 \le x < 1$

Range: $-1 \le y < 2$



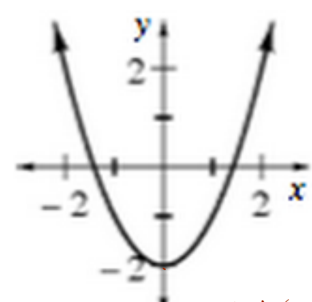
Domain: $-1, 1, 2$

Range: $-2, 1, 2$



Domain: $-1 \le x < \infty$

Range: $-1 \le y < \infty$



Domain: $-\infty < x < \infty$

Range: $-2 \le y < \infty$

3 Show how to find the y-axis intercept AND x-axis intercept(s) <u>algebraically</u> of the following function. when you are done, you can check with your calculator.

$$y = x^5 - 18$$

$f(x)$

x-intercept

Set $y=0$

$x^5 - 18 = 0$

$x^5 = 18$

$\sqrt[5]{} \quad \sqrt[5]{}$

$x = \sqrt[5]{18}$

$(\sqrt[5]{18}, 0)$

$(1.78, 0)$

y-intercept

Set $x=0$

$y = (0)^5 - 18$

$= -18$

$(0, -18)$

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(4)

Making "ONES"

$\frac{\cancel{5}}{\cancel{5}} = 1 \qquad \frac{\cancel{x}}{\cancel{x}} = 1 \qquad \frac{\cancel{x}\cdot\cancel{x}}{\cancel{x}\cdot\cancel{x}} = 1 \qquad \frac{\cancel{x^2}}{\cancel{x^2}} = 1 \qquad \frac{4\cancel{n^3}}{\cancel{n^3}} = 4$

$\frac{4+n^3}{n^3}$

$\frac{\cancel{n}\cdot\cancel{n}\cdot n}{\cancel{n}\cdot\cancel{n}} = \boxed{n} \qquad \frac{n^3}{\cancel{n^2}} = n \qquad \frac{m^6 \cancel{b^2}}{m^2 \cancel{b^2}} = \boxed{m^4}$

$$\frac{\cancel{z}\cdot\cancel{z}\cdot\cancel{z}^{1}}{\cancel{z}\cdot\cancel{z}\cdot\cancel{z}\cdot zz} = \boxed{\frac{1}{z^2}}$$

$$\frac{\cancel{z^3}^{\,1}}{\cancel{z^5}^{\,z^2}} = \frac{1}{z^2}$$

$$\frac{10\cancel{x}^{1}}{3\cancel{x^2}x} = \boxed{\frac{10}{3x}}$$

$$\frac{\cancel{n^{502}}^{\,n^2}}{\cancel{n^{500}}^{\,1}} = \boxed{n^2}$$

$$\frac{\cancel{x^{100}}^{\,1}}{\cancel{x^{120}}^{\,x^{20}}} = \boxed{\frac{1}{x^{20}}}$$

$$\frac{10x}{(3x)^2}$$

5 There are seven exponent "laws", two of which can be tricky.

$$\boxed{\frac{a^m}{a^n} = a^{m-n}} \quad \text{and} \quad \boxed{(ab)^m = a^m b^m}$$

$$\frac{\cancel{x^5}x^2}{\cancel{x^3}\,1} = \boxed{x^2}$$

or just make "ONES" instead $\frac{x^5}{x^3}$

$$\frac{\cancel{a^4}^{\,1}}{\cancel{a^6}a^2} = \boxed{\frac{1}{a^2}}$$

or just make ONES instead $\frac{a^4}{a^6} =$

$$\frac{4\cancel{x}^{1}y^2t}{5m\cancel{x^4}x^3} = \frac{4y^2t}{5mx^3}$$

$(5x^3)^2 = 5^2 (x^3)^2 = 25x^6$

$(2n^2m)^4 = \boxed{16n^8m^4}$

$(-2m^3)^3 =$

$(-2)^3 (m^3)^3$

$\boxed{-8m^9}$

$(n^2)^4$

$((-3)n^2e^3)^2 =$

$(-3)^2 n^4 e^6$

$9n^4e^6$

Learning from your LCQ you took on

first a few thoughts

Confusion about $\sqrt{}$

$\sqrt{16}$

4

$\sqrt{x^2} = \sqrt{25}$

$x = \pm 5$

Solutions to equations

$18 = 2x$

$9 = x$

$x = 9$

same with writing functions

$f(x) = 2x^2 - 3x + 2$

$y =$

Exact Answers

$(\quad x \quad) = 0$

$\downarrow$

$3x - 5 = 0$

$3x = 5$

$x = \frac{5}{3}$

$\frac{5}{2} =$

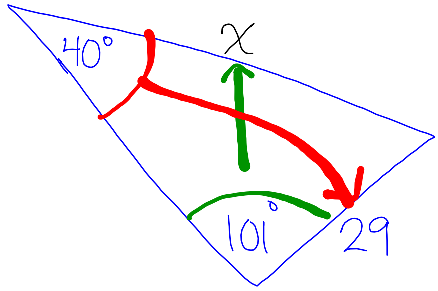
NOT 1.67

$1.\overline{6}$

Continue from yesterday

more Review Trig

7



$$\frac{\sin(40^\circ)}{29} = \frac{\sin(101^\circ)}{x}$$

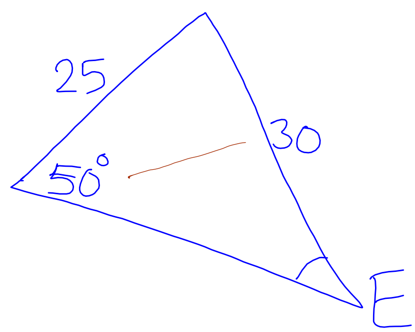
$$x \cdot \sin(40) = 29 \cdot \sin(101)$$

$$x = \frac{29 \cdot \sin(101)}{\sin(40)}$$

$$= \underline{44.29}$$

AAS

8 find $m\angle E$



$$\frac{\sin(50^\circ)}{30} = \frac{\sin(E)}{25}$$

cross m

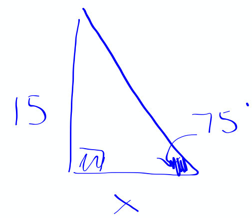
$$30 \cdot \sin(E) = 25 \cdot \sin(50)$$

$$\sin(E) = \frac{25 \cdot \sin(50)}{30}$$

$$E = \sin^{-1}\left(\frac{25 \bullet \sin(50)}{30}\right) = 39.7^\circ$$

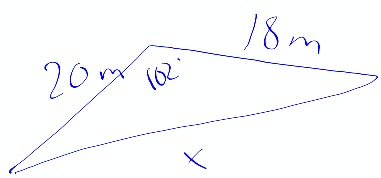
HW

(1)



$\tan(75°) = \frac{15}{x}$ ~~Soh~~ ~~Cah~~ Toa

(4)



LAW OF Cosines

Questions on HW

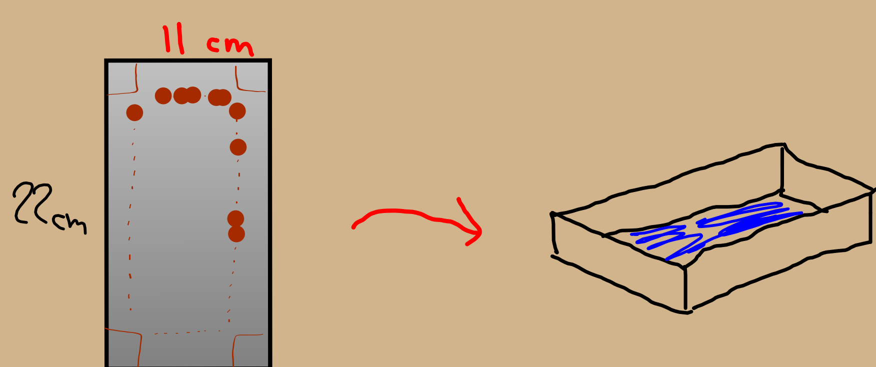
BB

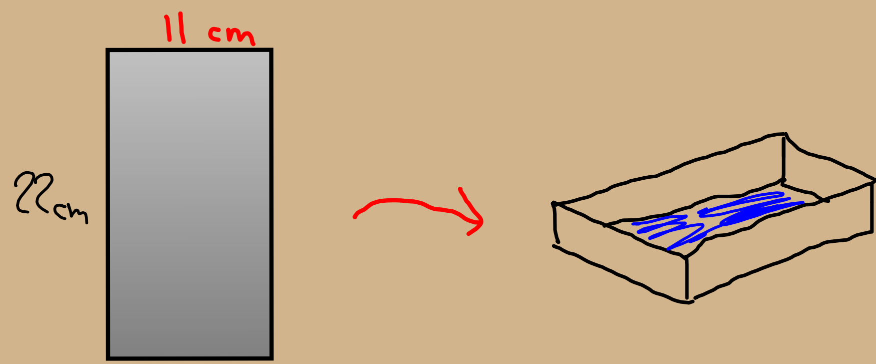
Goals for today and tomorrow.

Generate an algebraic relationship of a geometric situation.

(2-day investigation)

Design an open top box, starting from a flat rectangular piece of metal



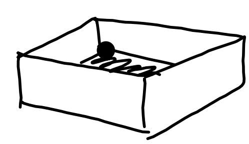


To maximize the volume, what size squares should be cut out of each corner ?

Demo of an

Open Top Box

being constructed



Each pair will be given a paper with dimensions

22cm × 16 cm

Each of you will cut out and make a box, however, everyone will have a different cut out size

1, 2, 3, 4, 5, 6, 7, 8

A) Cut, fold, tape your box

B) Which one will give us the largest volume?

Each person should now calculate the volume of their own.

Purple	1 × 1
White	2 × 2
Cream	3x3
Blue	4x4
Dark Brown	5 × 5
Light Pink	6x6
Dark Pink	7x7

cut out (cm)	Volume (cm^3)
0	
1	280
2	432
3	480
4	448
5	300
6	240
7	112
8	

cut out (cm)	Volume (cm^3)
0	
1	
2	
3	
4	
5	
6	
7	
8	

Assignment

1. 59-61 , 64-66, 68-69

59 (can make a sketch instead of a graph)
61 (Make a graph...... graph paper !!!)