Things we should be working on this week:
- Getting lined up with the CourseCompass
- Finishing 1.1 - 1.4 by Monday, I mean Tuesday (MLK Day is Monday!)
- Plugging away on the Chapter P Pre-Test. Using those results to generate a study plan.
- Giving your teacher a visit to say 'Hello' and get comfy about asking questions. No time for any joking around, though, unless, of course, you know a joke. EDBH 134 K

Drop-In Tutoring hours at the Learning Commons have been announced:
Math
Monday: 9am - 12pm, 6pm - 8pm
Tuesday: 9am - 1pm, 6pm - 8pm
Wednesday: 9am - 12pm
Thursday: 9am - 1pm
Friday: 9am - 1pm

Writing
Monday: 9am - 2pm, 5pm - 8pm
Tuesday: 9am - 2pm, 5pm - 8pm
Wednesday: 1pm - 5pm
Thursday: 9am - 2pm
Friday: 11am - 2pm

Science
Tuesday: 11am - 1pm
Wednesday: 11am - 3pm

Drop-in tutoring will begin Tues., January 18, 2011
Campus CLOSED on Mon., January 17, 2011
Individual tutoring will begin January 24, 2011
**Hours are subject to change without notice.*

Rock asks the following question from 1.1:

Solve the equation.

$2-3|3x+2|=2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The solution set is $\{\square\}$.
(Type an integer or a simplified fraction. Use a comma to separate answers as needed.)

B. The solution set is the empty set, $\varnothing$.

$-0=0$

Usually, these absolute value equations have two solutions. This one appears to have just one. The rule for Absolute Value Equations is as follows:

* $|\ \square\ | = 5 \Rightarrow$ $\square = 5$ or $\square = -5$

If the original equation doesn't have this form, you need to manipulate it into this form and then use the rule.

$2-3|3x+2|=2$

$-2 \quad\quad = -2$

$-3|3x+2| = 0$

$\frac{-3|3x+2|}{-3} = \frac{0}{-3}$

$|3x+2| = 0$

$3x+2=0$ or ~~$3x+2=-0$~~

$-2=-2$

$3x=-2$

$\frac{3x}{3} = \frac{-2}{3}$

$x = -\frac{2}{3} \Rightarrow$

$x \in \{-\frac{2}{3}\}$

is an element of

§ 1.2 Models.

#44 Boudreaux went 2 mph faster downstream than upstream. With the current, it took 10 minutes. Against the current, it 30 min. How far from camp to crab traps?

$D = rt$

Speed is in mph. Time is in minutes. → hours.
Need same units

$10 \text{ min} = \left(\frac{10 \text{ min}}{1}\right)\left(\frac{1 \text{ hr}}{60 \text{ min}}\right) = \frac{10}{60} \text{ hr} = \frac{1}{6} \text{ hr}$

$30 \text{ min} = \ldots = \frac{1}{2} \text{ hr}$

	D	r	t
up	D	r	$\frac{1}{2}$
Down	D	r+2	$\frac{1}{6}$

$D = D$

$(r)\left(\frac{1}{2}\right) = (r+2)\left(\frac{1}{6}\right)$ from $D = rt$

$\frac{1}{2}r = \frac{1}{6}(r+2)$

$\frac{r}{2} = \frac{r+2}{6}$ LCD = 2·3 = 6

$\left(\frac{3}{1}\right)\left(\frac{r}{2}\right) = \left(\frac{1}{1}\right)\left(\frac{r+2}{6}\right)$

$3r - r = 2r$

$3r - r = r(3-1) = r(2) = 2r$

$3r = r+2$

$-r = -r$

$2r = 2$

$r = 1$ = speed against the current

	D	r	t	
up	D	r	$\frac{1}{2}$	$D = rt = 1 \cdot \frac{1}{2} = \frac{1}{2}$ mile
Down	D	r+2	$\frac{1}{6}$	$D = rt = (1+2)\left(\frac{1}{6}\right) = 3 \cdot \frac{1}{6} = \frac{1}{2}$

It's $\frac{1}{2}$ mile to the crab traps

Mixture Problem

Raisins are $4.50 per lb.

Bran is $2.80 " "

How many pounds of raisins should be mixed with 12 pounds of bran to get a mix worth $3.14 per pound.

Let x = the number of pounds of raisins.

	Amt	Price per lb.	Total price.
Raisins	x lbs rais	4.5 $\frac{\$}{\text{lb rais}}$	$4.5x
Bran	12 lbs bran	2.8 $\frac{\$}{\text{lb bran}}$	$(2.8)(12) = 33.6
Mix	$x+12$ lbs mix	3.14 $\frac{\$}{\text{lb mix}}$	$3.14(x+12)

Total money spent

$$4.5x + (2.8)(12) = 3.14(x+12)$$

$$4.5x + 33.6 = 3.14x + 37.68$$

$$-3.14x \quad = -3.14x$$

$$1.36x + 33.6 = 37.68$$

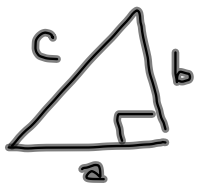
$$-33.6 = -33.6$$

$$1.36x = 4.08$$

$$\frac{1.36x}{1.36} = \frac{4.08}{1.36} = 3$$

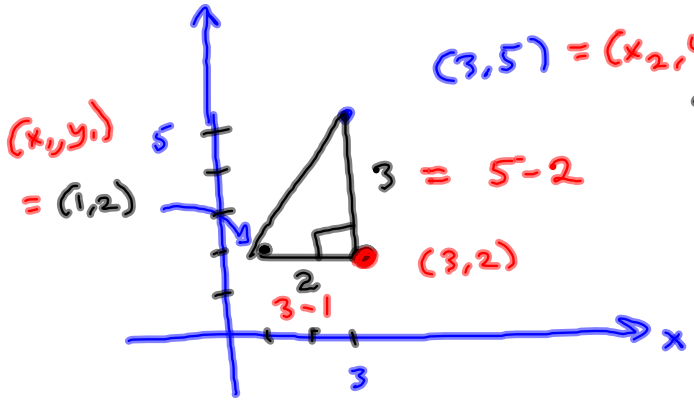
$x = 3$ lbs of raisins.

Pythagorus sez $a^2+b^2=c^2$



is the source of the distance formula in the plane.

Find the distance between $(1,2)$ & $(3,5)$



$d=\sqrt{(x_1-x_2)^2+(y_1-y_2)^2}$ is the distance formula

By Pythagorean Theorem distance is

$d^2 = 2^2+3^2 =$

$d^2 = 4+9$

$d^2 = 13$, so $d = \sqrt{13}$ = the POSITIVE square root.

$\sqrt{d^2}=\sqrt{13}$

Technically, $d^2 = 13$ implies $d = \pm 13$. Throw out the negative, because we only want positive distance

$\sqrt{d^2} = |d|$ is where the $\pm$ comes from.

$\sqrt{3^2} = 3$

$\sqrt{(-3)^2} = 3$

$\sqrt{13}$

Distance between $(2,-7)$ & $(13,5)$

(x_1, y_1) (x_2, y_2)

$$d = \sqrt{(x_1-x_2)^2 + (y_1-y_2)^2}$$
$$= \sqrt{(2-13)^2 + (-7-5)^2}$$
$$= \sqrt{(-11)^2 + (-12)^2}$$
$$= \sqrt{121 + 144}$$
$$= \sqrt{265}$$

$5 \overline{)265}$
53

53 is prime, so $\sqrt{265}$ doesn't break down. Need a PAIR of factors to break it down.

t = time Rick uses.

	D	r	t
Bobby	8	90 mph	t
Rick	10	x	t

x = speed Rick must average (in mph)

~~(8)(90) = 10x~~

~~720 = 10x~~

~~10x = 720~~

~~x = 72~~ !?

~~Oh! Upside-down!~~

$D = rt \Rightarrow t = \frac{D}{r}$

$t = t$

upside down, but still works.

$\frac{8}{90} = \frac{10}{x}$

$\frac{90}{8} = \frac{x}{10}$

$900 = 8x$

$\frac{900}{8} = x$