What's Going On?

Checking In	Test Day Tomorrow
Minds on	Looking Back: Letters and Formulas
Action!	Working Together: Review
Consolidation	Taking up the Tough Ones

Tomorrow is our Equations Test!

If you need help, you can:

- come in at lunch today
- read the notes on the website
- check Ch. 4 in the textbook
- do/redo homework questions and check your answers

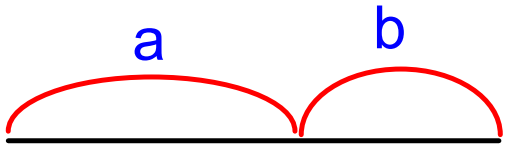
Minds on

Rearranging Formulas

For the equation:

$$a + b = 6$$

What are some possible options for the values of *a* and *b*?



2 and 4
5 and 1
3 and 3
6 and 0
−2 and 8

3.5 and 2.5

Minds on

Rearranging Formulas

$$a + b = 6$$

Suppose that I am very interested in *a*. I want to create an equation that tells me "*a* = ____"

To do this, I will pretend that *b* is just an ordinary number.

Minds on

Rearranging Formulas

$a + b = 6$

What can I do to this equation to solve for a?

$a + b = 6$

$-b \quad -b$

$a = 6 - b$

Remember: if I had

$a + 3 = 6$,

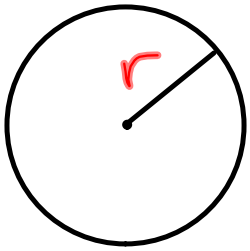
I could solve for a by subtracting 3 from both sides.

Minds on

Rearranging Formulas

The circumference of a circle has the formula:

$$C = 2\pi r$$



where C is the circumference and r is the radius.

Minds on

Rearranging Formulas

$$C = 2\pi r$$

where C is the circumference and r is the radius.

Suppose that I am very interested in **r**.

I want to **solve for r** and get an equation that looks like "r = ___ ".

I can treat everything else (C, 2, π) like they are just numbers in the equation.

Minds on

Rearranging Formulas

Solve for r.

$C = 2\pi r$

$$\frac{C}{2\pi} = \frac{2\pi r}{2\pi}$$

$$\frac{C}{2\pi} = 1r$$

$$r = \frac{C}{2\pi}$$

Minds on

Rearranging Formulas

Solve for r.

$C = 2\pi r$

Think about your answer:

We don't have one solid number for **r**.

This makes sense, because if the circumference of the circle changes, then the radius r would change too! The two variables depend on each other.

Action!

Rearranging Formulas

To solve for a variable when there are several letters/symbols:

1. *Underline the variable* you want to solve for.

2. *Use the steps in the chart* to undo the operations on the variable.

3. *Treat all the other letters/symbols just like numbers*.

4. Your final answer will still be a formula (it will still have letters), but it should be in the form "r = _____" (if **r** is your variable).

Action!

Rearranging Formulas

Solve...

$A = P + I$ for P

$P = 4s$ for s

$d = mt + b$ for m

$a = \frac{v}{t}$ for v

$v = \frac{d}{t}$ for t

$A = \pi r^2$ for r

$$A = P + I$$ for P

$-I \quad -I$

$A - I = P$

$P = 4s$ for s

$\frac{}{4} \quad \frac{}{4}$

$\frac{P}{4} = S$

$d = mt + b$ for m

$-b \qquad -b$

$\frac{d-b}{t} = \frac{mt}{t}$

$\frac{d-b}{t} = m$

$$a = \frac{v}{t}$$ for v $$v = \frac{d}{t}$$ for t

$$A = \pi r^2 \quad \text{for } r$$

$$\frac{A}{\pi} = r^2$$

$$\sqrt{\frac{A}{\pi}} = r$$

Consolidation

Review Time!

If you get stuck, use your SOLVING FOR X charts

Fractions, Brackets, :

Variables on 2 sides,

Adding/Subtracting, Coefficients

Consolidation

Simple Equations

$$\frac{3x}{3} = \frac{18}{3}$$

$$x = 6$$

Consolidation

Simple Equations

$-3s - 6 = 9$

$-3s - 6 = 9$

$+6 \quad +6$

$\frac{-3s}{-3} = \frac{15}{-3}$

$s = -5$

Consolidation

Simple Equations

$$5 \times \left(\frac{h}{5}\right) = (-4) \times 5$$

$$h = -20$$

Consolidation

Multi-Step Equations

$3 + 3x + 4 = 2x - 3$

$3 + 3x + 4 = 2x - 3$

$7 + 3x = 2x - 3$

$-2x \quad -2x$

$7 + x = -3$

$-7 \quad -7$

$x = -10$

Consolidation

Multi-Step Equations

$$2n - 16 = -4(2n - 1)$$

Consolidation

Multi-Step Equations

$$3(2k-5)-k=4-(3k+7)$$

$6k-15-k=4-3k-7$

$5k-15=-3-3k$

$5k-15=-3-3k$

$+3k \quad +3k$

$8k-15=-3$

$+15 \quad +15$

$\frac{8k}{8}=\frac{12}{8}$

$k=\frac{3}{2}$ or $k=1.5$

Test Friday!
Homework: Finish review sheets, and bring your questions tomorrow.