
Note-Making Not Note-Taking

(Using HS Geometry)

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Notes can either...

Preserve student thinking
or

Replace student thinking

What makes the difference?

Why is Note-Making Important to Me

I became a teacher because I love watching students make sense of something—when they notice a pattern, change their minds, or finally see why something works. So I have always hated teaching what are called *dead notes*: information students copy before they have thought about it or have any reason to care about it. The page may look complete, but no thinking was required to create it.

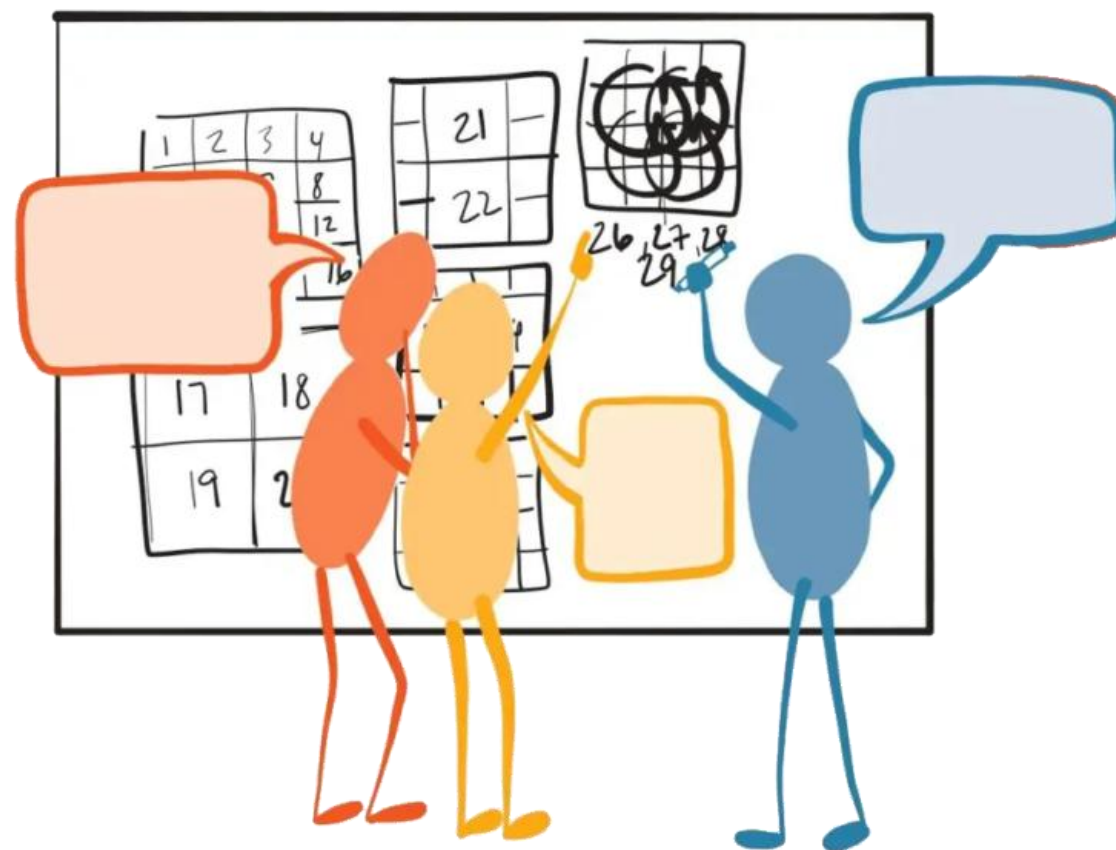
Then I found, understood, and implemented BTC Notes, and I'll never go back!

Before I show you what making
notes looks like, you need to
have some thinking worth
preserving.

Task Directions

Work with your group to solve each task.

- Everyone participates.
- Make your thinking visible.
- Show enough reasoning that another group could follow it.
- Try to erase as little as possible (you'll see why soon!)



A rectangle measures 2 units by 3 units.

- Find its perimeter and area.
- The rectangle is enlarged by a scale factor of 2.
- Before calculating, predict what will happen to its perimeter and area.
- Calculate to check your predictions.

Enlarge the original rectangle by a scale factor of 3.

- Before calculating, predict what will happen to its perimeter and area.
- Calculate to check your predictions.
- Compare the original measurements to the enlarged measurements.
- What patterns do you notice?

If you don't see a pattern, try a scale factor of 4, 5, etc.

You are about to erase most of your thinking.

Before you do, decide what is worth carrying forward.

**Choose one example that would help you later and one realization, mistake, or reminder worth preserving.
Those will become part of your notes.**

IMPORTANT INFORMATION

Scale Factor, Perimeter, and Area

A **scale factor** tells how much a figure is _____ or _____.

When a figure is changed by a scale factor of k :

- Every length is multiplied by _____.
- The perimeter is multiplied by _____.
- The area is multiplied by _____.



Example #1



A figure has:

$$P = 18 \text{ units}$$

$$A = 24 \text{ square units}$$

The figure is enlarged by a scale factor of 3.
Find the new perimeter and area.

THINGS TO REMEMBER!

Example #2

**Debrief: Choose one black question to discuss.
Then discuss the teal question.**

- What decisions did your group make that you would not have made while copying traditional notes?
- Which quadrant required the most discussion or negotiation? Why?
- What did I control as the teacher, and what did your group control?
- How did seeing other groups' boards affect your individual notes?
- What was gained by completing the notes after the task rather than before it?
- Where did you still need guidance from the teacher?
- What would students need to learn or practice before this process could run smoothly?
- At what point today did this become note-making rather than note-taking?

 IMPORTANT INFORMATION	Example #1 
 THINGS TO REMEMBER! What do they want to remember? What mistakes did they make during boardwork?	Example #2  They choose their own example of any level of difficulty and solve it. If too easy/hard for one group member, have them find one from another group.

Summary: _____

T S e a m p l e r s

Complete this example (yellow highlights):

Find the missing angle

Angles will add up to same as

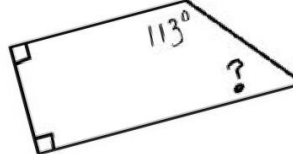


$$-24 = \frac{\div}{2} =$$

Answer:

Pick an addition example to work using a trapezoid or a parallelogram:

Work this example



IMPORTANT INFORMATION

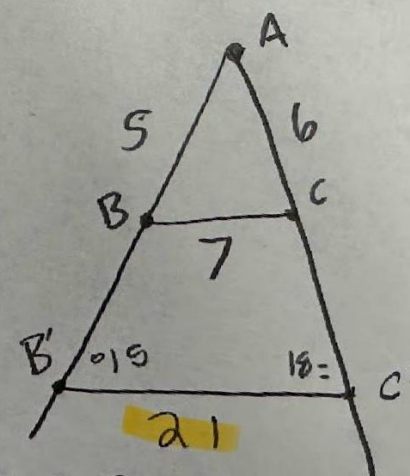
Dilate a dilation with a center and scale factor takes a point to another point.

Scale Factor: The factor by which a figure is stretch or shrink.

Similar: Same shape but different size

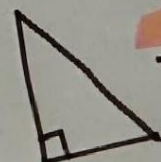
Example #1

Dilate line BC using A as the center and 3 as the scale factor.



Line BC is parallel to

Pythagorean Theorem:



$$+ =$$

Simplifying Radicals:

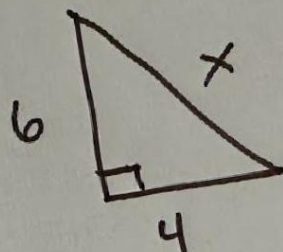
$$\sqrt{72} = \cdot 2\sqrt{2}$$

$$= \sqrt{2}$$

Read this as:

TIPS + Things to Remember

EX 1:



EX 2:

IMPORTANT INFORMATION

A line is a set of points on a line with. We name it by its. Drawn with a.

A ray is a set of points the from the center.

Name:



S t u d e n t S a m p l e s

Important info

Vertical angles are equal and across

Adjacent angles share a side and a vertex

A linear pair is a pair of adjacent angles whose measures add to 180

Complementary angles add to 90

Supplementary angles add to 180

Ex 1

$b = 43^\circ$

Tips

adjacent

linear pair 180°

complementary

equal vertical

Ex 2

$x = 26^\circ$

$\sqrt{72} = \frac{2\sqrt{2}}{\sqrt{2}}$

read this as:

Tips & Things to remember

- $a^2 + b^2 = c^2$ - subtraction
- If the # that = x simplify to a decimal use the simplifying radicals method.
- If $a^2 + b^2 = c^2$ subtract from both sides of the = sign.

Important information

Learn = Love

Congruent statements

L	LO
O	OV
V	VE
E	EL

Example #1

D

E

F

DE

EF

DF

Things to remember

- Points need to correspond
- Corresponds = Same spot
- Congruent = Same measure
- Order needs to match up with first statement
- $\cong$ means congruent

Make your own example

$ABC \cong DEF$

rotate CCW

A=D
B=E
C=F

AB=DE
BC=EF
CA=FD

Important

Definitions:

Dilate: a dilation with a scale factor and center that takes a point to another point

Scale factor: The factor by which a is stretched or shrunk represented by letter

Similar: same shape but different in a size

Example

Center: A

Scale factor: 3

Line BC is parallel to line B'C'

Things to remember

label primes

Scale Factor [K]

Stretch $K > 1$

Shrink $K < 1$

Congruent $K = 1$

Finding K $K = \frac{\text{New}}{\text{Old}}$

- Translate
- Rotate
- Dilate
- Reflect

Example

Scale factor: $\frac{1}{2}$

INFO

Two points

Points

Straight edge

Same distance ★

Radius

Compass

in radius

$\frac{AB}{Fg}$

EX #1

Tips

- All points are marked w/ letter
- the radius starts from the center of circle
- 2 circles overlapping always have 2 points of intersection

EX #2

Find the 2 intersecting points

Tips for Success

Setting Up The Routine

- Scaffold heavily at first.
- Keep the same groups from the task.
- **Everyone has a marker.**
- Prepare paper and follow-up work in advance.

Teacher Moves at the Board

- Let student thinking from the tasks determine Boxes 1 & 2
- Use questions to uncover errors.
- **Do not let incorrect information remain.**
- Help students connect mistakes to examples and tips.

Transitioning to Individual Notes (Optional part of the process)

- Distribute paper as groups finish.
- Have students examine other boards.
- Move directly into a task where the notes can be used (CYUs, practice, etc).
- **Give repeated opportunities to use and revise notes.**

Design your first note-making experience

Topic:

Important information:

Mild example:

Possible student-selected examples:

Likely mistakes or reminders:

How students will use the notes afterward:

Resources

★ **Make Math Moment Podcast w/ Peter Liljedahl - Episode 249**

<https://makemathmoments.com/episode249/>

- Notes starts at ~30:00

★ **Make Math Moment Podcast w/ Peter Liljedahl - Episode 272**

<https://makemathmoments.com/episode272/>

- Notes starts at 13:05; New format at 15:23

★ **Think. Thank. Thunk. - Episode 5**

<https://thinkthankthunk.ca/ep-5/>

★ **Think. Thank. Thunk. - Episode 10**

<https://thinkthankthunk.ca/ep-10/>

★ **Think. Thank. Thunk. - Episode 11**

<https://thinkthankthunk.ca/ch-11/>

- Chapter 11 from the book

★ **Notes in a Thinking Classroom - BTC Facebook Events**

02/01/2026: <https://www.facebook.com/events/1617380539277158/>

07/27/2023: <https://www.facebook.com/don.newman.39/videos/1023049865390555/?id&orvanity=811136217404026>