

6 SIGNS OF

UNFORGETTABLE LESSONS

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February 28 · [Profile]



If a thief forces you to take money out of an ATM, do not argue or resist. What you do is punch in your pin # backwards. EX: if its 1234, you'll type 4321. When you do that, the money will come out but will be stuck in the slot. The machine will immediately alert the local police without the robbers knowledge & begin taking photos of the suspect. Every ATM has the feature. Stay safe.

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Will Entering Your PIN in Reverse at an ATM Summon the Police?

Entering your PIN in reverse at any ATM will not automatically send an alarm to local police -- the idea is nothing more than an old and unimplemented suggestion.

CLAIM

Entering your PIN in reverse at any ATM will automatically summon the police.

[See Example\(s\)](#)

RATING

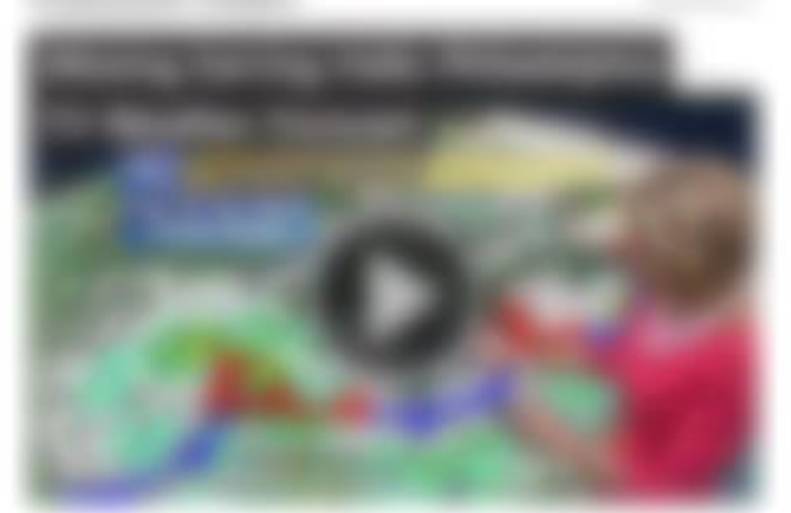
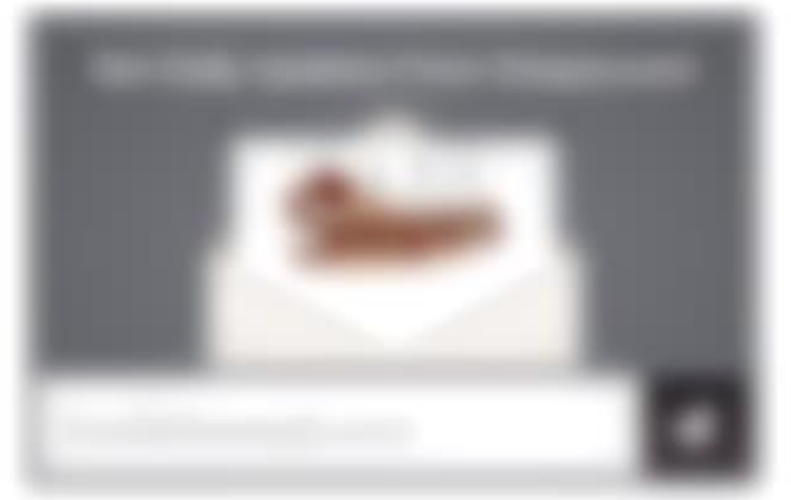


ORIGIN

Messages offering a seemingly helpful heads-up about how to deal with a situation in which one is forced to hand over money withdrawn from an ATM under duress began circulating on the Internet in September 2006:



If a thief forces you to take money out of an ATM, do not argue or resist.





Tell them what you're going
to tell them. Tell it to them.

Then tell them what you told
them.

UNKNOWN

NAME: _____

DATE: _____

Lesson 12 Skills Practice

Objective: Write PIN Backwards

Write backwards.

1. 0461

1640

7. 6842

2486

2. 3625

5263

8. 7532

2357

3. 9572

2759

9. 1549

9415

4. 8713

3178

13.

14.

8109

Presentation

- Tell them what you're going to tell them.
- Tell it to them.
- Then tell them what you told them.

Lesson

- State the lesson objectives.
- Teach the lesson.
- Review the lesson objectives.

The definition of insanity is doing the same thing over and over again but expecting different results.

UNKNOWN

Why Some Ideas Survive and Others Die...

MADE

to

STICK

Chip Heath & Dan Heath

- **Understood**
- **Remembered**
- **Lasting impact**

STICKY ATTRIBUTES

SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

STORIES

Simplify.

$$(x^2 + 3)(2x^3 - 7x + 4)$$



Fig. 1.

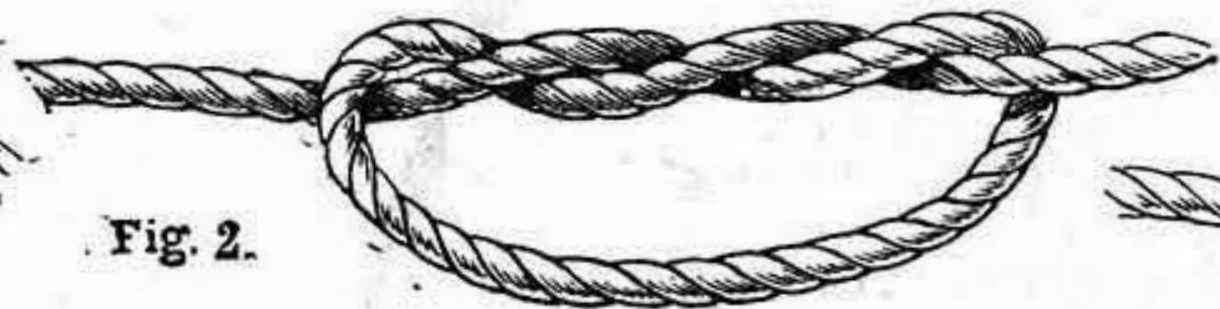


Fig. 2.



Fig. 2a.



Fig. 3.



Fig. 5.



Fig. 4.

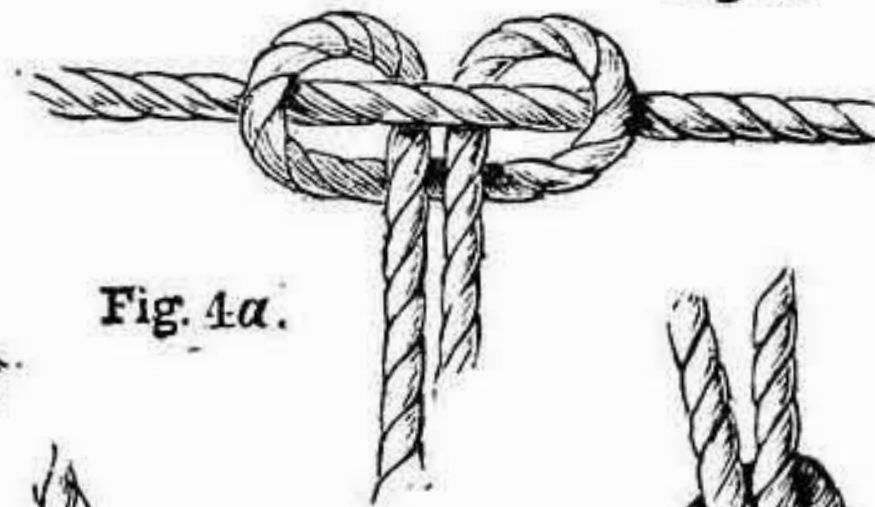


Fig. 4a.



Fig. 14.

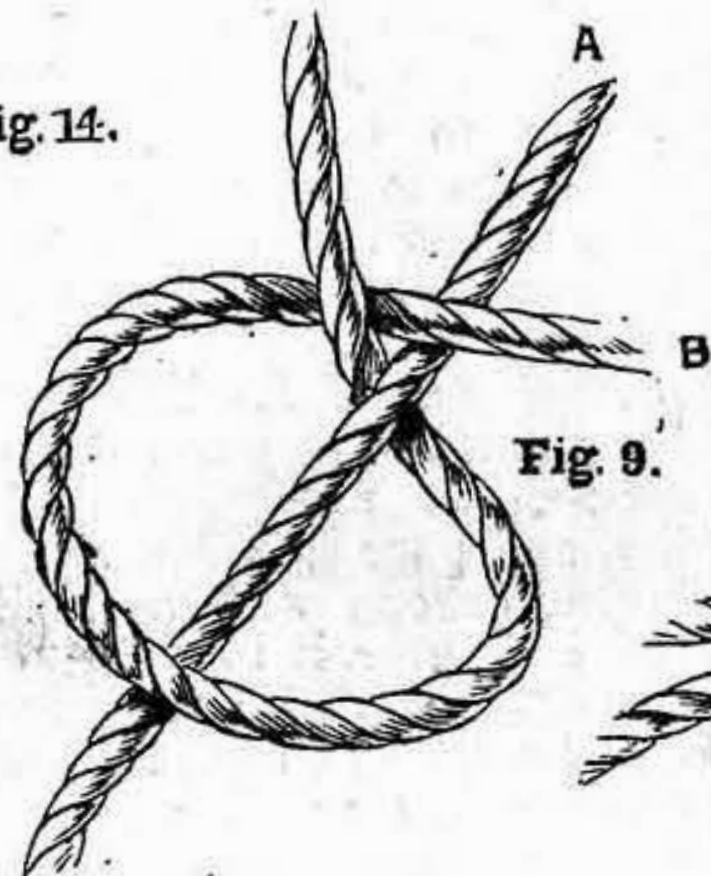


Fig. 9.



Fig. 6.

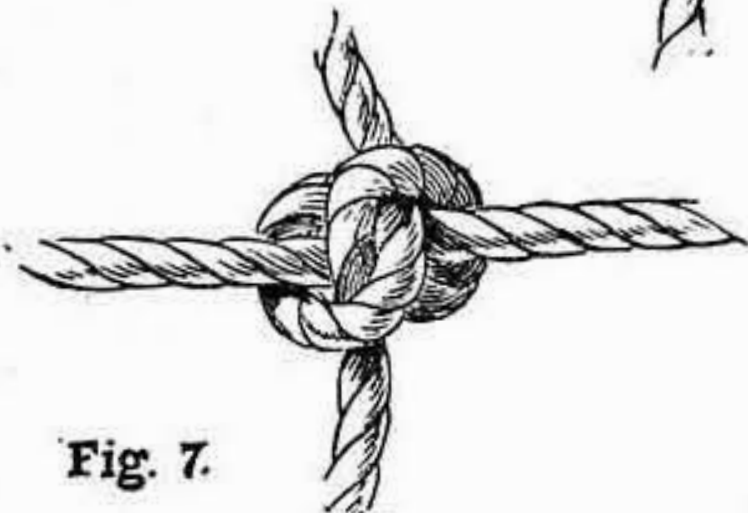


Fig. 7.



Fig. 8.



Fig. 10.




Fig. 11.



Fig. 13.

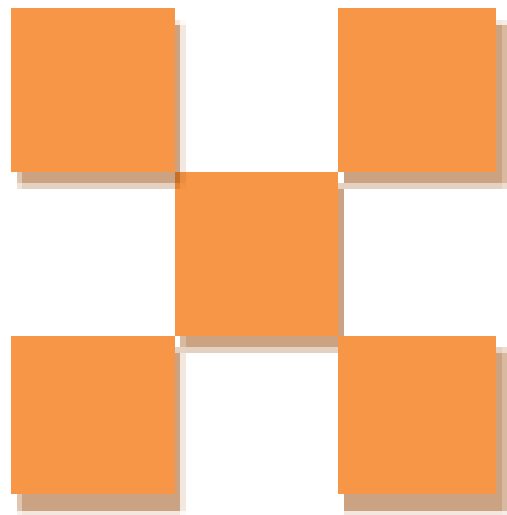


Fig. 12.

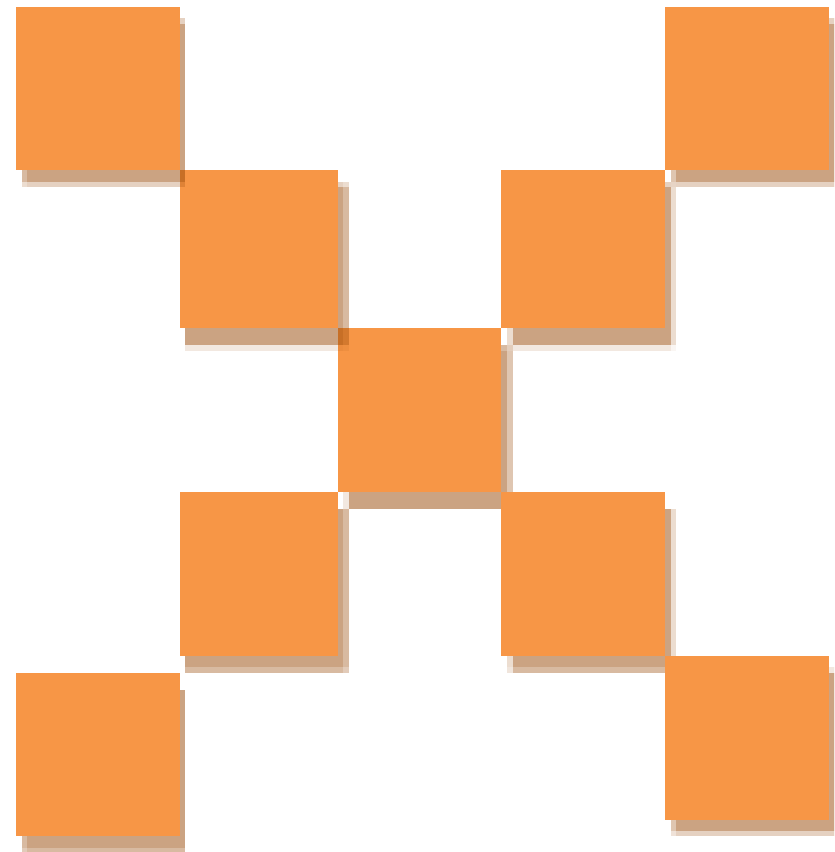


If math is the aspirin,
then how do you
create the headache?

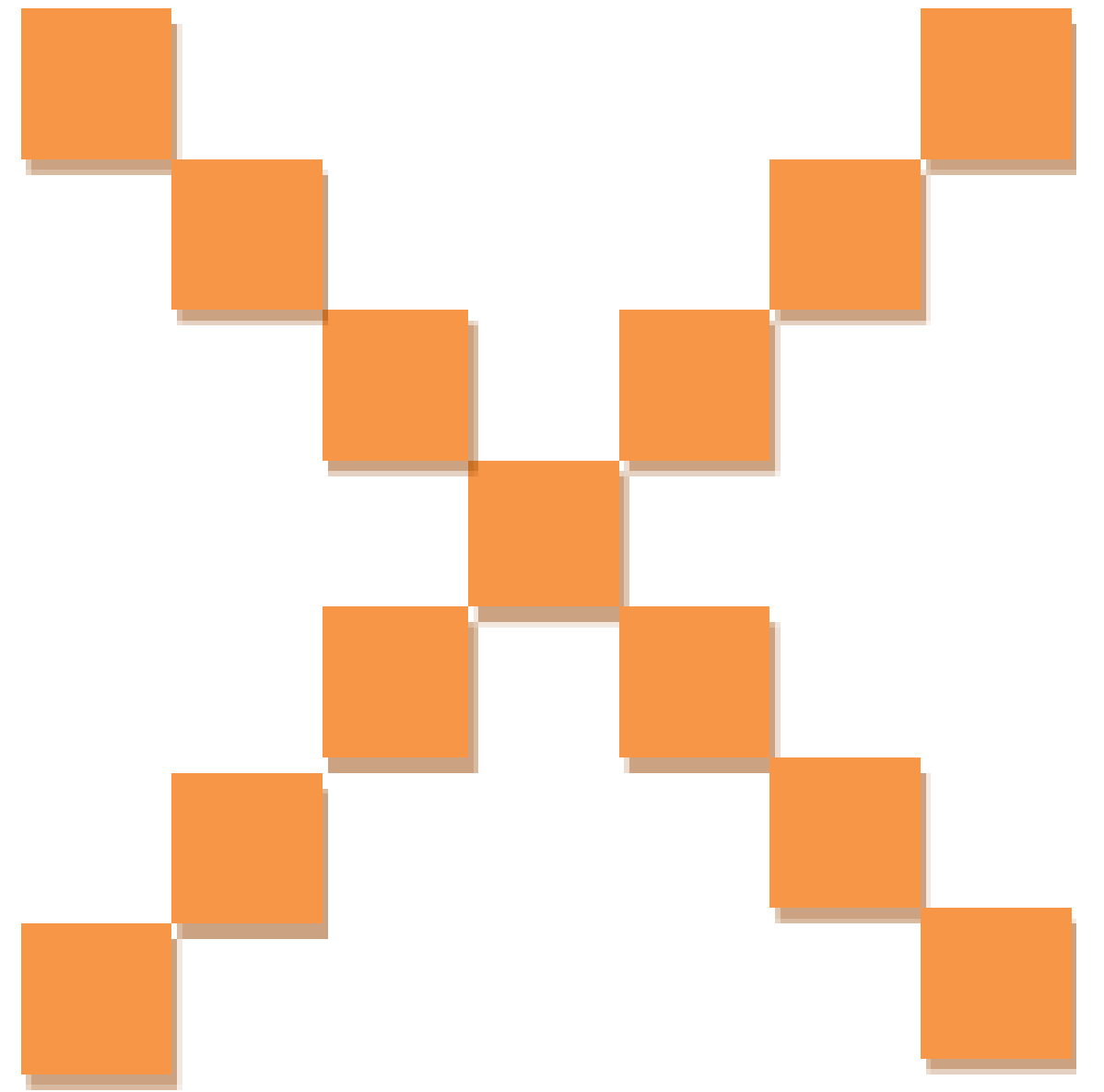
DAN MEYER



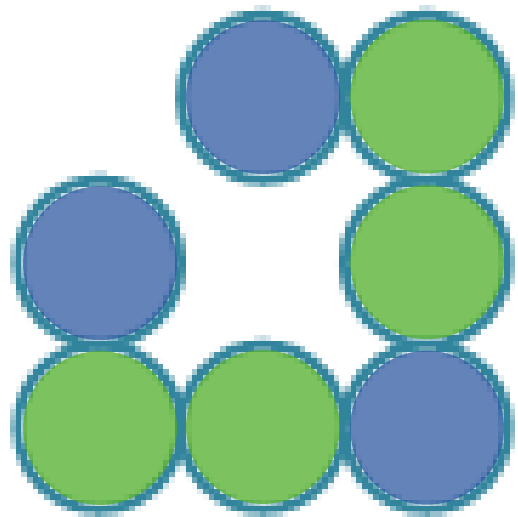
Step 1



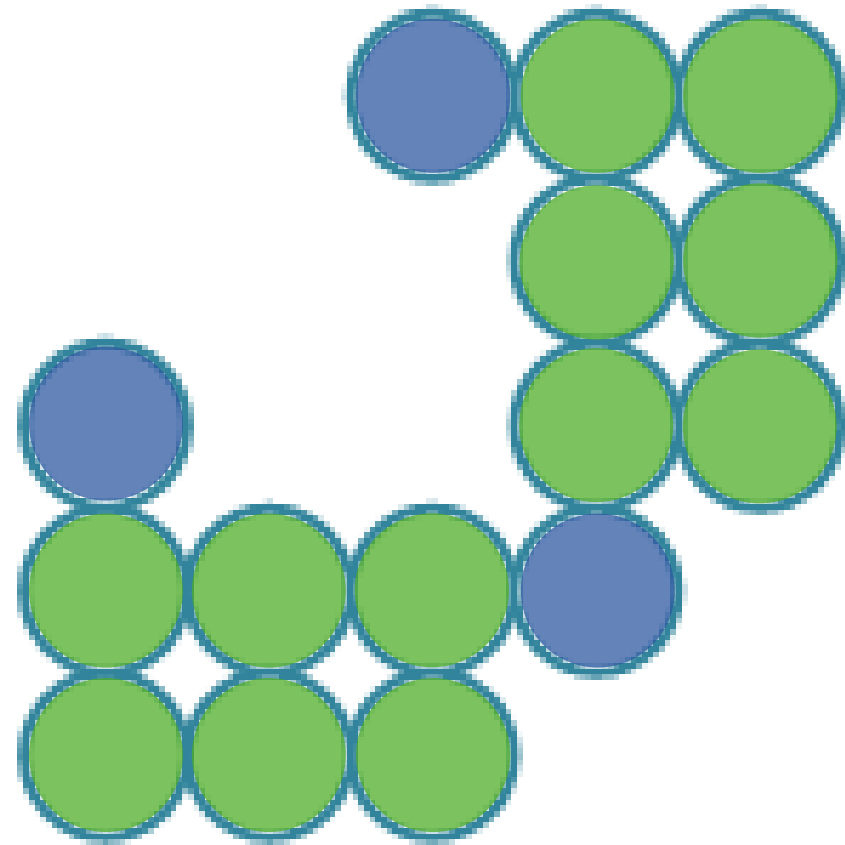
Step 2



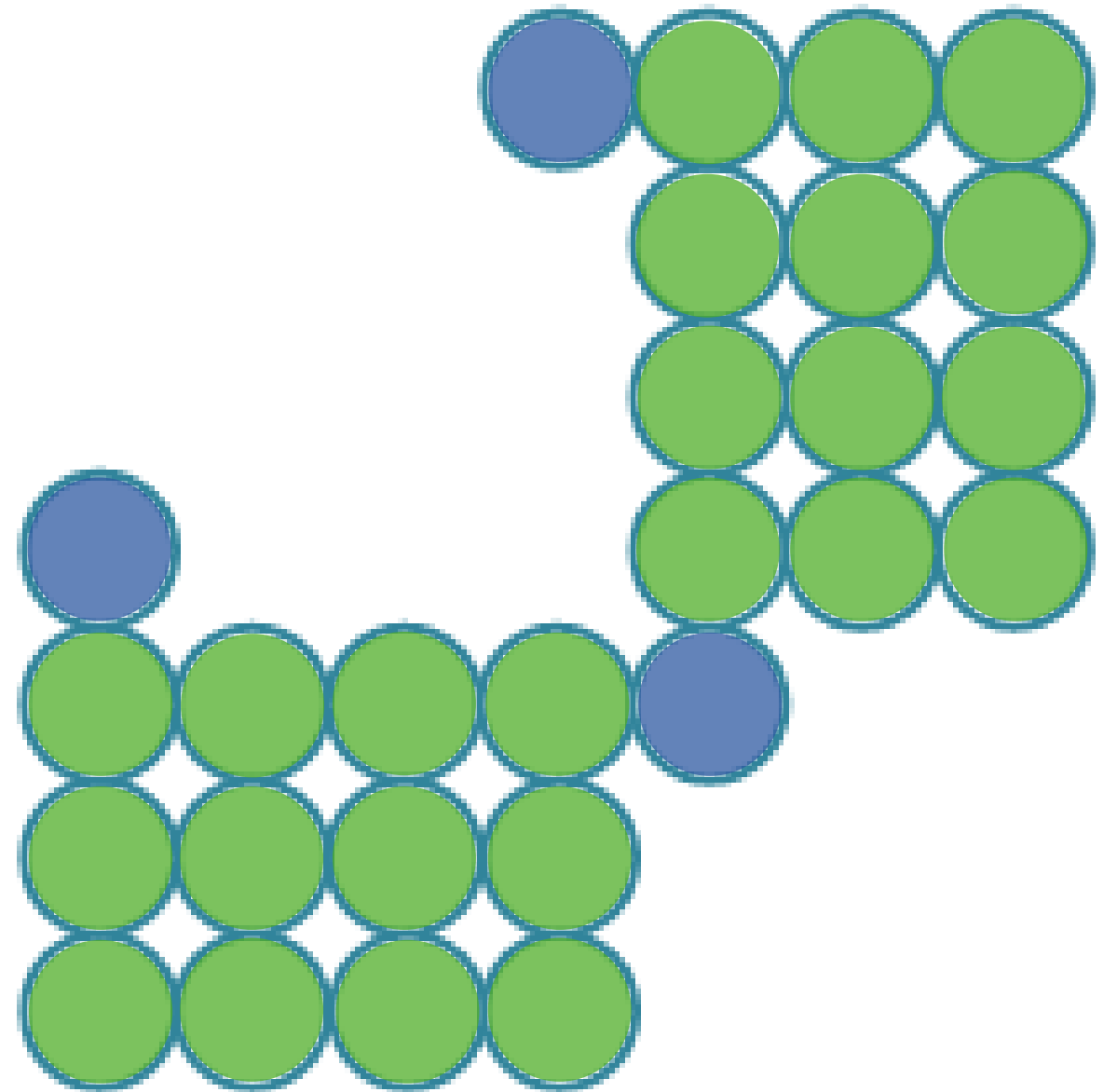
Step 3



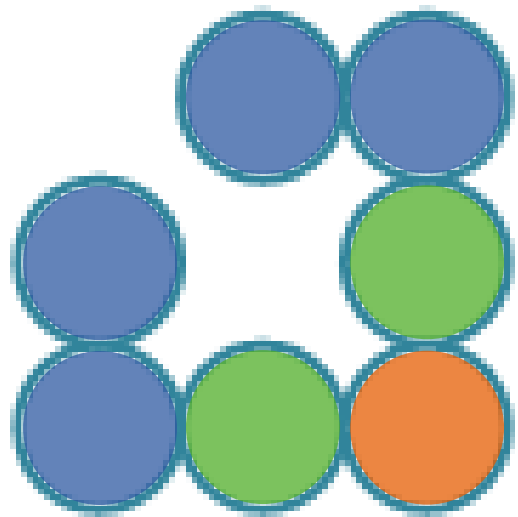
Step 1



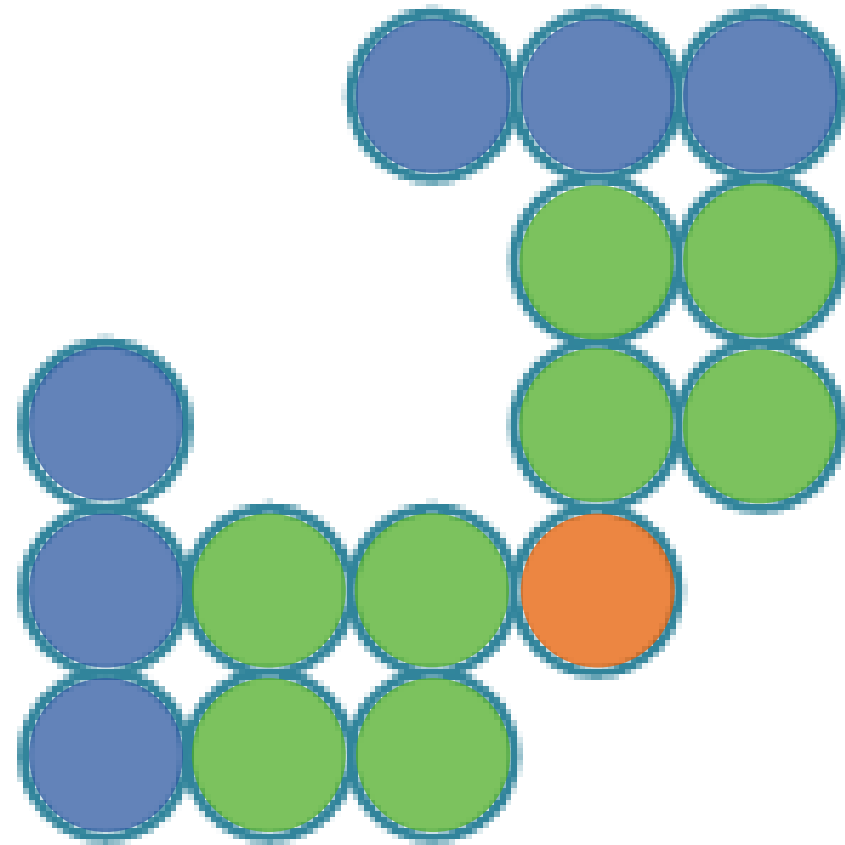
Step 2



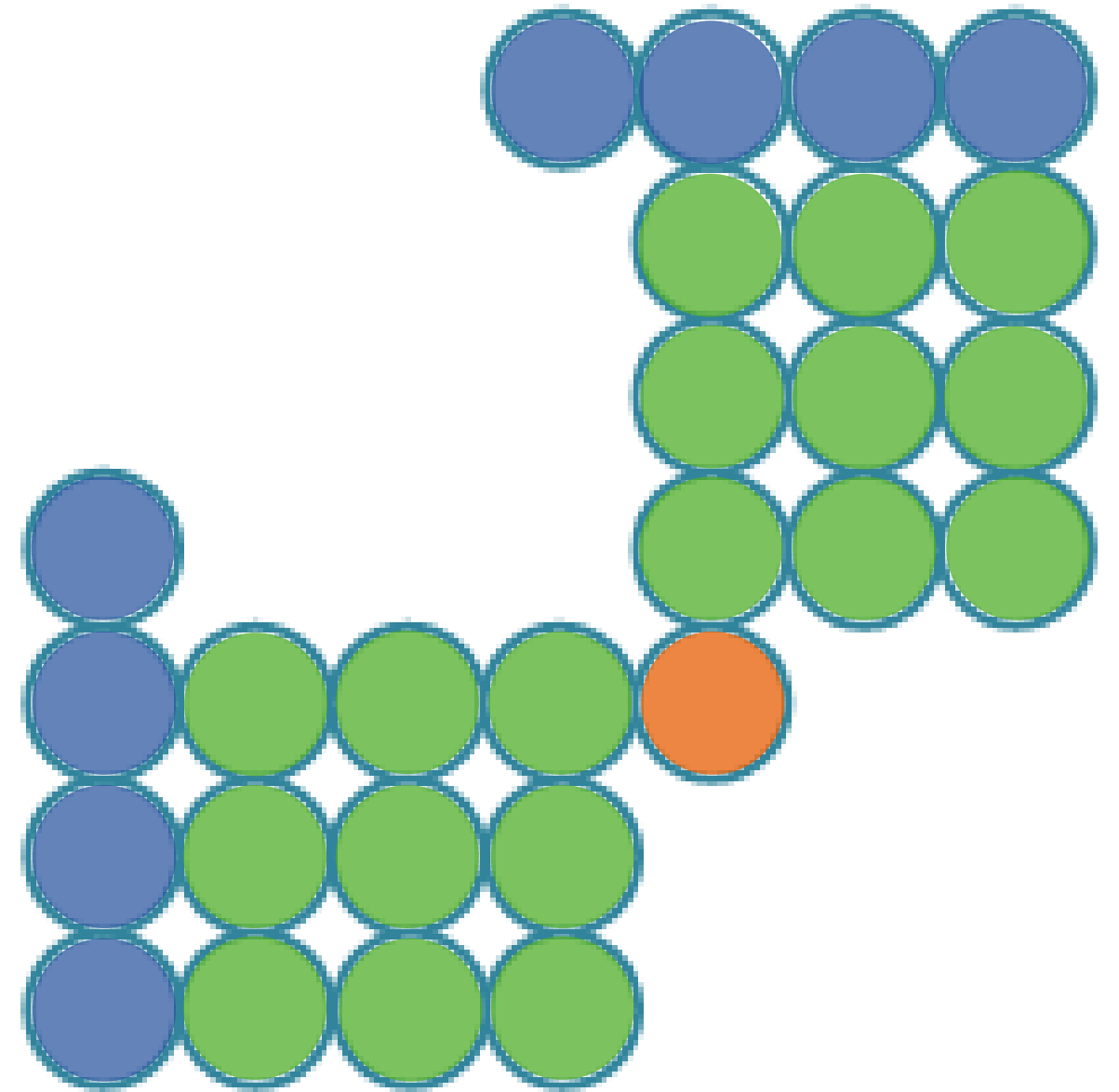
Step 3



Step 1



Step 2



Step 3

Select a person that's special to you for any reason.

Next

Skip the practice round.





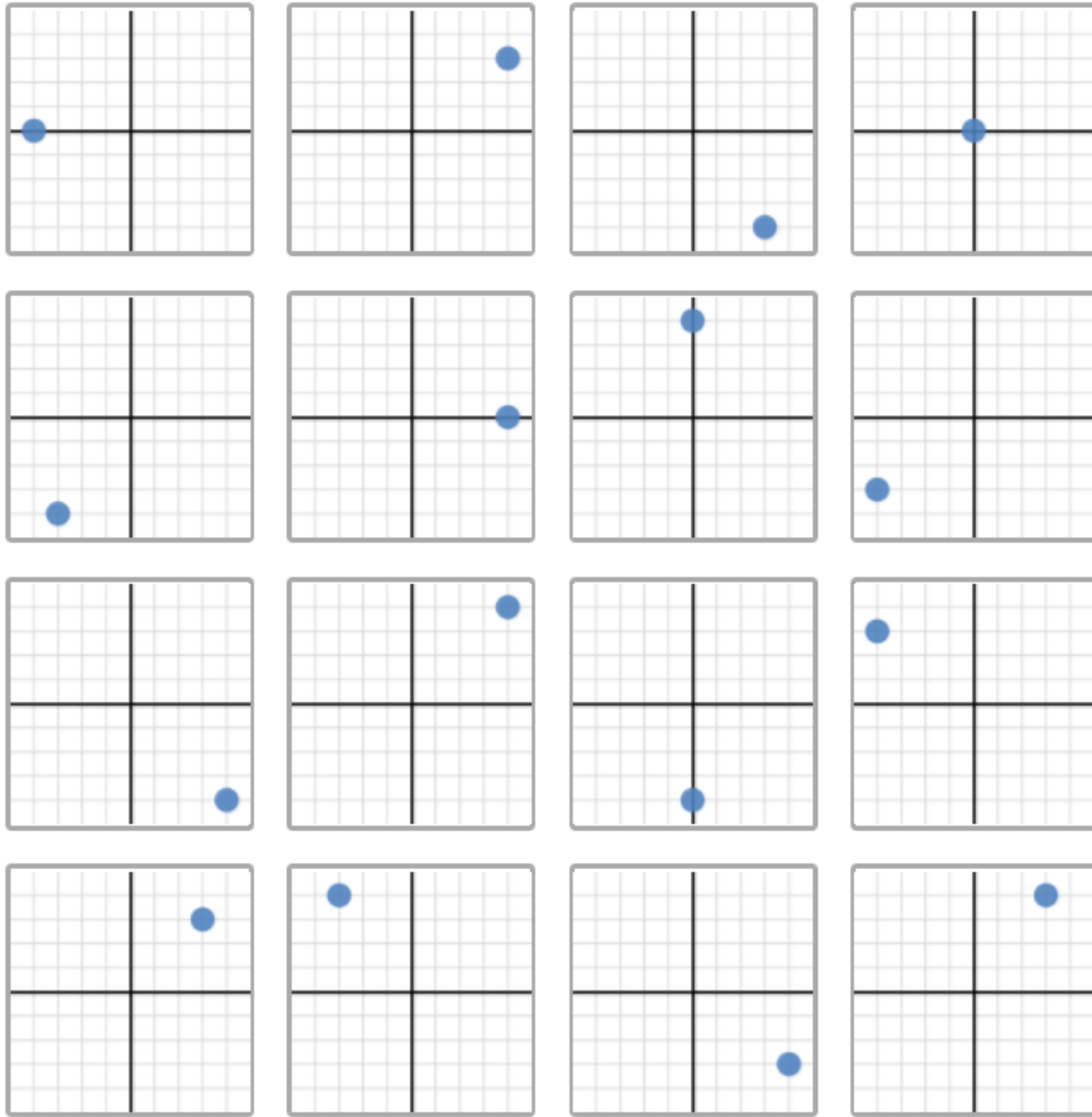
Questions Asked: 0

Your Partner: fghfgh

Your challenge: figure out which graph your partner picked. Ask a "yes" or "no" question about the graph.



Send



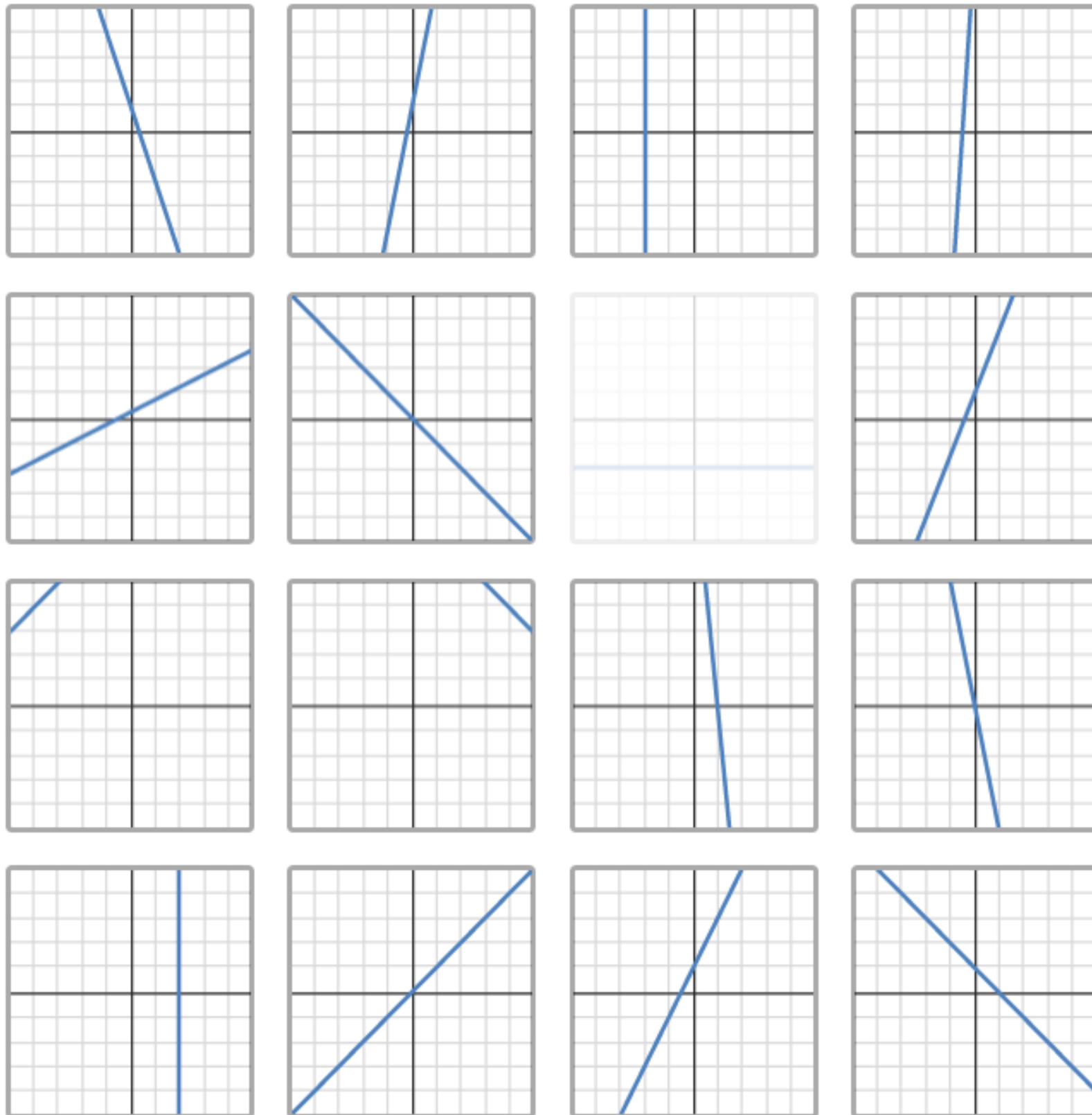
Questions Asked: 0

Your Partner: ghjhgj

Your challenge: figure out which graph your partner picked. Ask a "yes" or "no" question about the graph.



Send



Questions Asked: 2

Your Partner: Lupita

YOU ASKED

Does your line go up and down?

YOUR PARTNER CHOSE

Yes

YOUR PARTNER ELIMINATED



YOU ASKED

Is your line slanted?

YOUR PARTNER CHOSE

I Don't Know



Select lines to eliminate based on your partner's answer. Then press the button below.

Go on without Eliminating



Questions Asked: 0

Your Partner: Robert Kaplinsky

Your challenge: figure out which graph your partner picked. Ask a "yes" or "no" question about the graph.



Send

STICKY ATTRIBUTES

- SIMPLE
- UNEXPECTED
- CONCRETE
- CREDIBLE
- EMOTIONAL
- STORIES



5% Charged

9:02

Friday, July 11

9:06

10% Charged

9:10

14% Charged

9:14

19% Charged

9:18

24% Charged

9:22

28% Charged

9:26

33% Charged

9:30

38% Charged

9:34

42% Charged

THINKING TIME

9:38

47% Charged

9:42

52% Charged

9:46

56% Charged

9:50

61% Charged

9:54

65% Charged

9:58

70% Charged

10:02

74% Charged

10:06

78% Charged

10:10

82% Charged

10:14

84% Charged

10:18

87% Charged

10:22

89% Charged

10:26

90% Charged

10:30

92% Charged

10:34

93% Charged

10:38

94% Charged

10:42

95% Charged

10:46

96% Charged

10:50

97% Charged

10:54

97% Charged

10:58

98% Charged

11:02

98% Charged

11:06

98% Charged

11:10

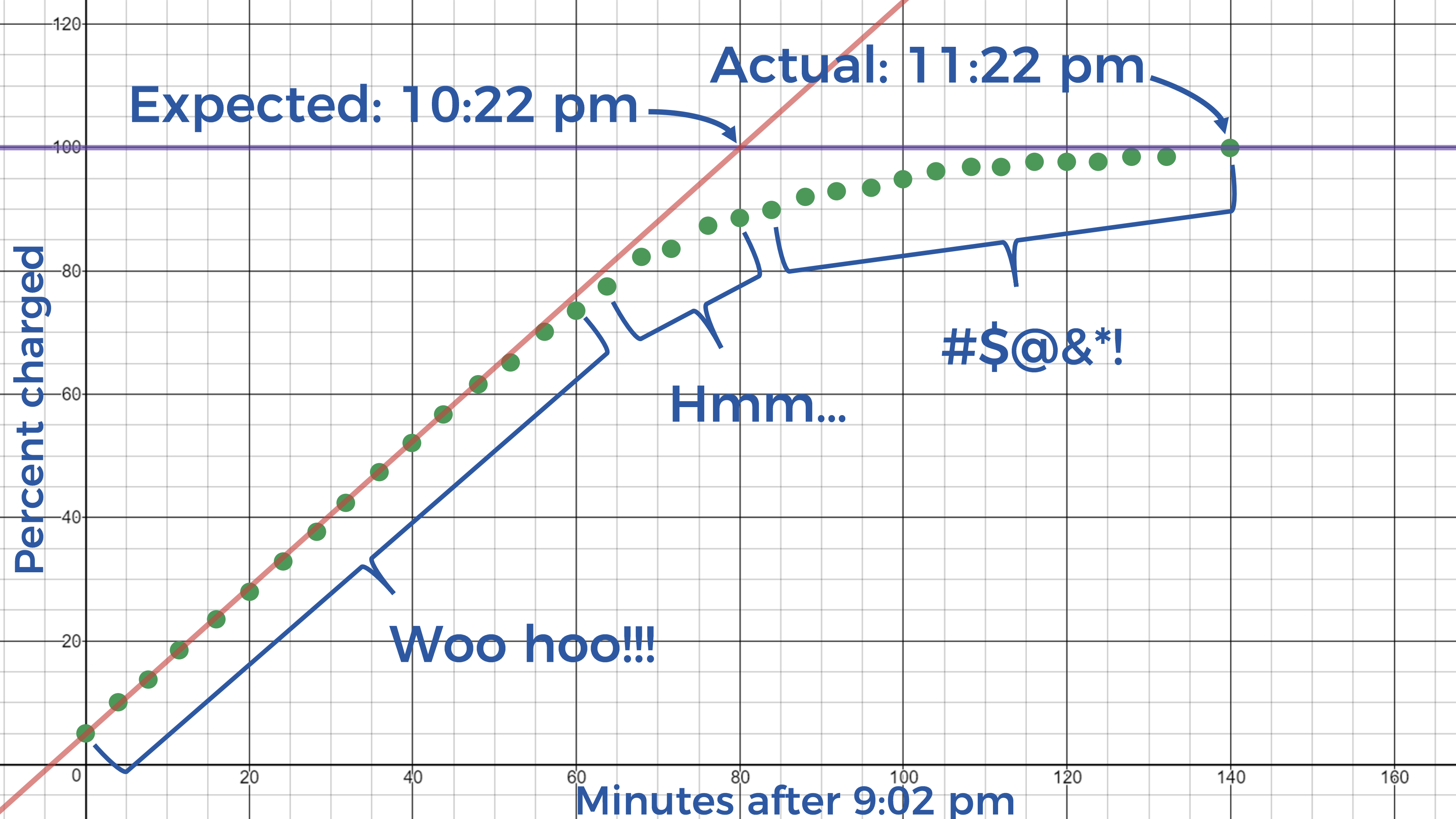
99% Charged

11:14

99% Charged

11:22

100% Charged



Expected: 10:22 pm

Actual: 11:22 pm

Percent charged

Hmm...

#\$@&*!

Woo hoo!!!

Minutes after 9:02 pm

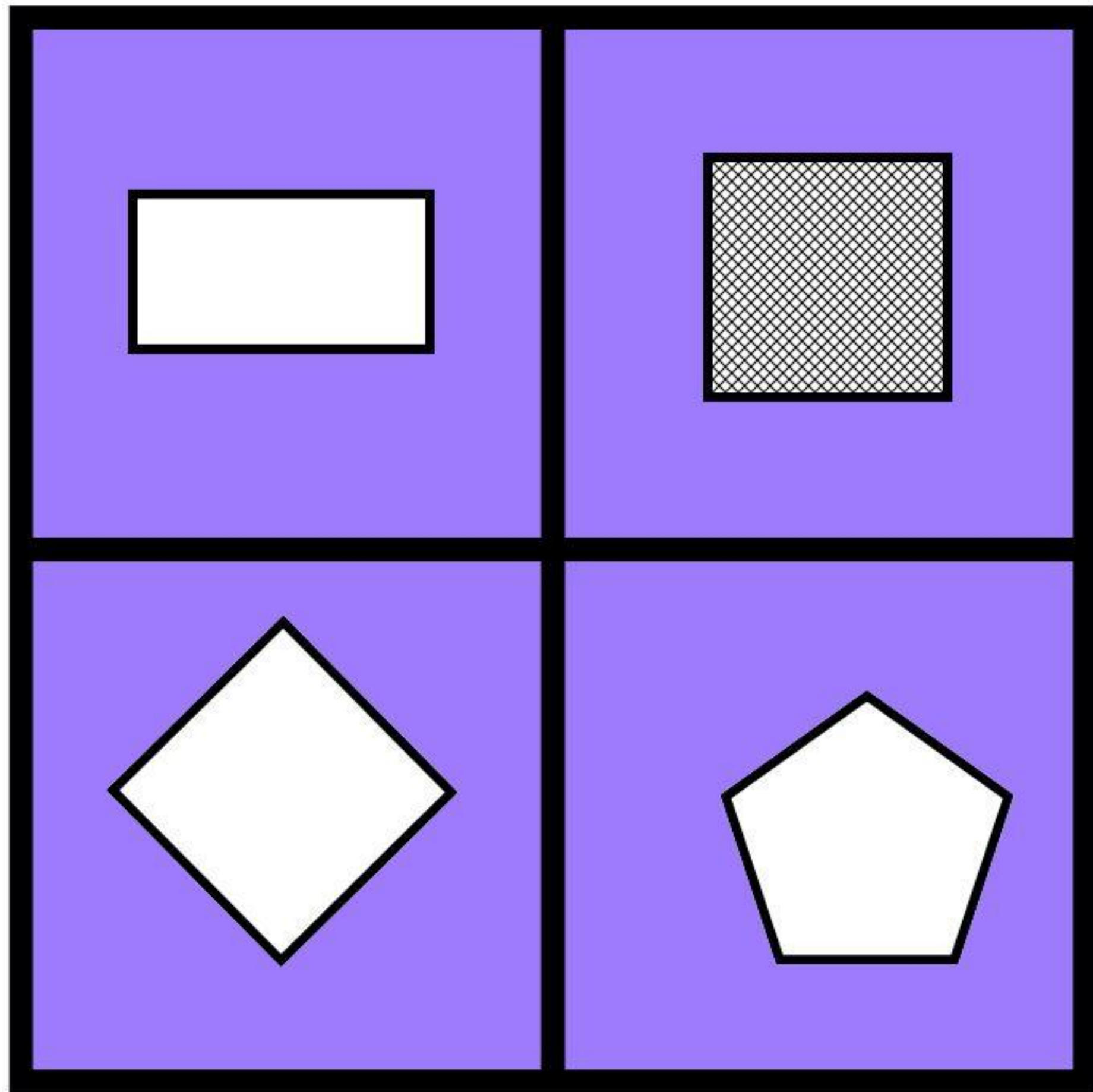
UNEXPECTED

❑ PATTERN BREAKING

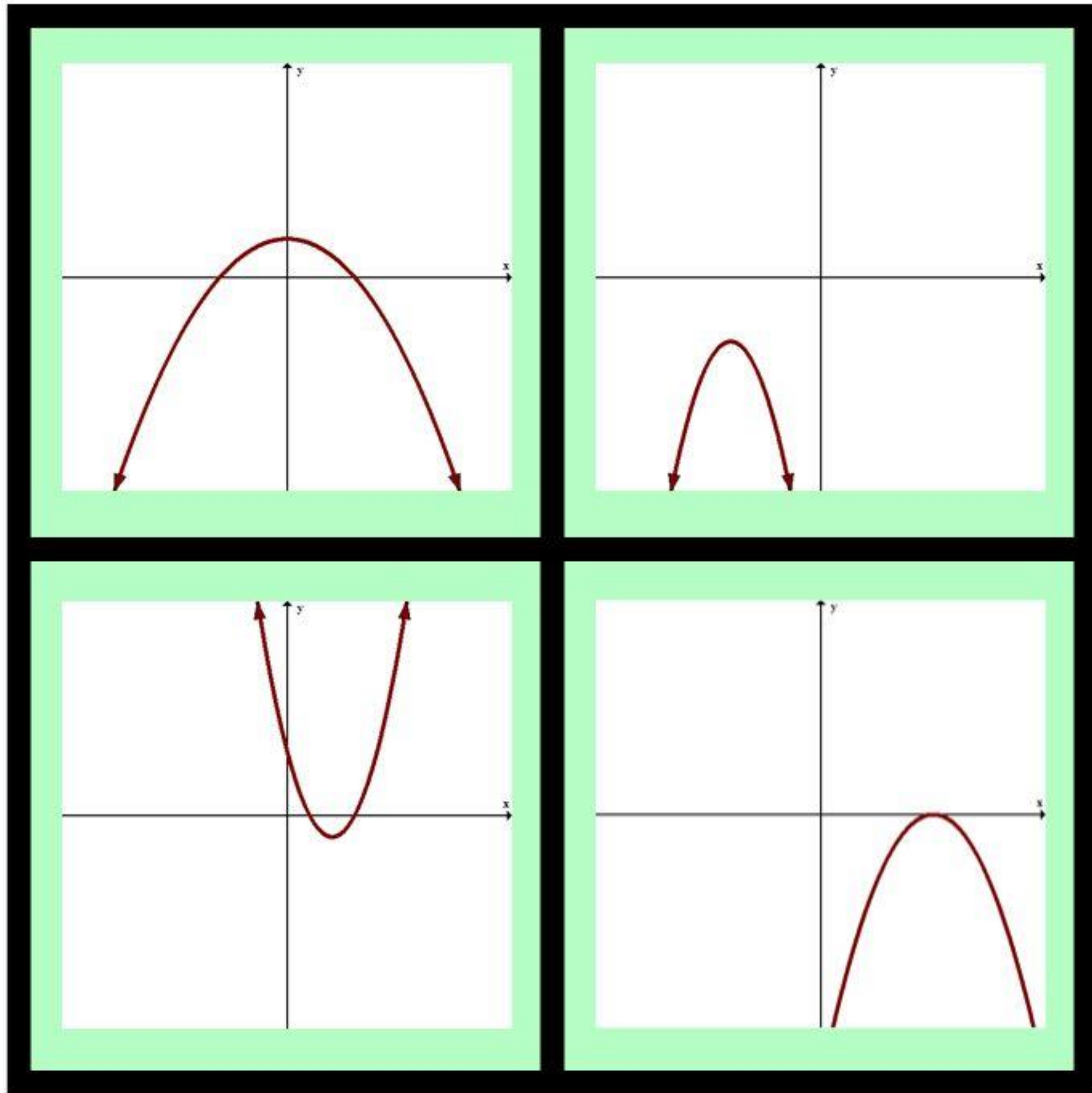
❑ COUNTERINTUITIVE

❑ KNOWLEDGE GAPS

❑ OPEN MIDDLE







UNEXPECTED

PATTERN BREAKING

COUNTERINTUITIVE

KNOWLEDGE GAPS

OPEN MIDDLE

*SURFACE AREA OF A
SPHERE FORMULA
DEMONSTRATION*

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \dots$$

$$\approx 1$$

$$\frac{1}{2}$$

$$\frac{1}{16}$$

$$\frac{1}{8}$$

$$\frac{1}{32}$$

$$\frac{1}{128}$$

$$\frac{1}{64}$$

$$\frac{1}{4}$$



Source: Kyle Pearce - [youtube.com/watch?v=Yr53Ji4SZDg](https://www.youtube.com/watch?v=Yr53Ji4SZDg)

UNEXPECTED

PATTERN BREAKING

COUNTERINTUITIVE

KNOWLEDGE GAPS

OPEN MIDDLE

Curiosity... arises from the perception of a gap in knowledge or understanding.

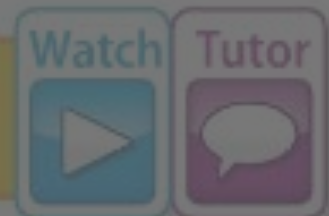
GEORGE LOEWENSTEIN



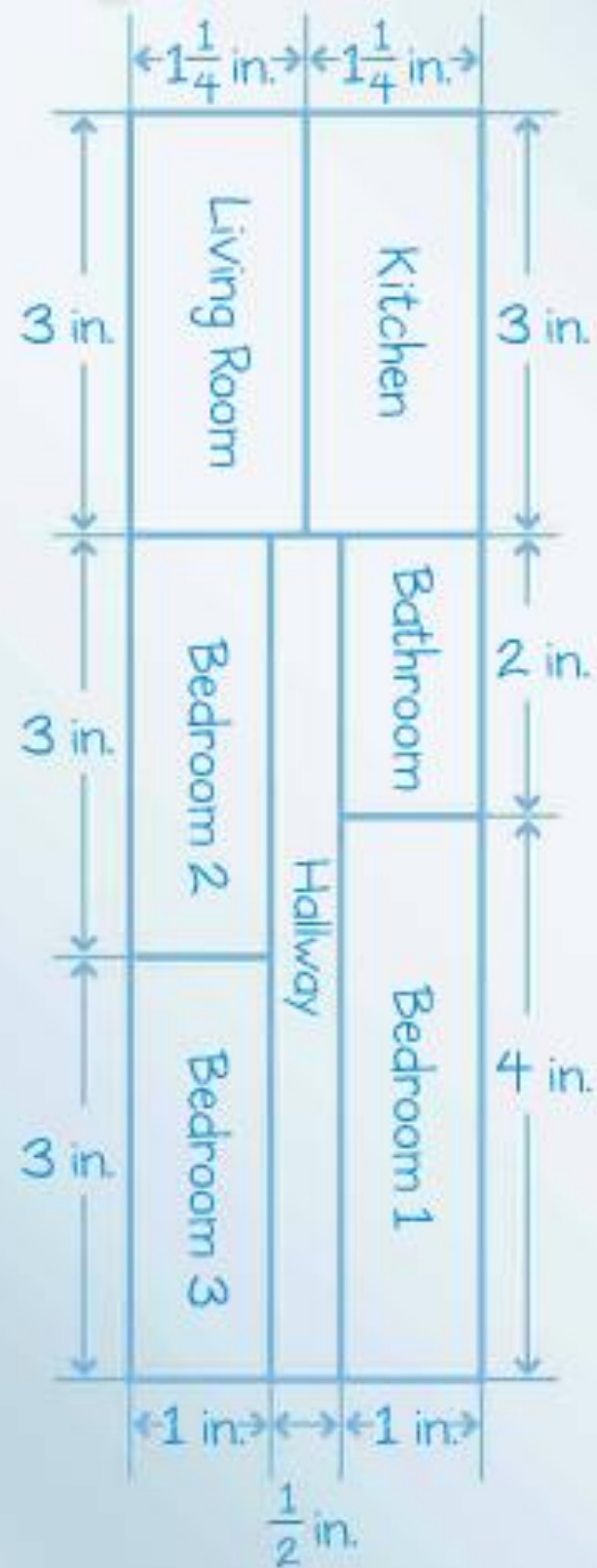
Source: robertkaplinsky.com/lessons via Zoolander



Example



4. A floor plan for a home is shown at the left where $\frac{1}{2}$ inch represents 3 feet of the actual home. What is the actual area of bedroom 1?



Length of Bedroom 1.

$$\frac{\frac{1}{2} \text{ in.}}{3 \text{ ft}} = \frac{4 \text{ in.}}{w}$$

← floor plan
← actual

$$\frac{1}{2}w = 12$$

Find cross products.

$$w = 24$$

Divide each side by $\frac{1}{2}$.

Width of Bedroom 1.

$$\frac{\frac{1}{2} \text{ in.}}{3 \text{ ft}} = \frac{1 \text{ in.}}{x}$$

← floor plan
← actual

$$\frac{1}{2}x = 3$$

Find cross products.

$$x = 6$$

Divide each side by $\frac{1}{2}$.

So, the area of bedroom 1 is 24×6 or 144 square feet.

Got It? Do this problem to find out.



Source: robertkaplinsky.com/lessons



Source: robertkaplinsky.com/lessons



Source: robertkaplinsky.com/lessons



Source: robertkaplinsky.com/lessons

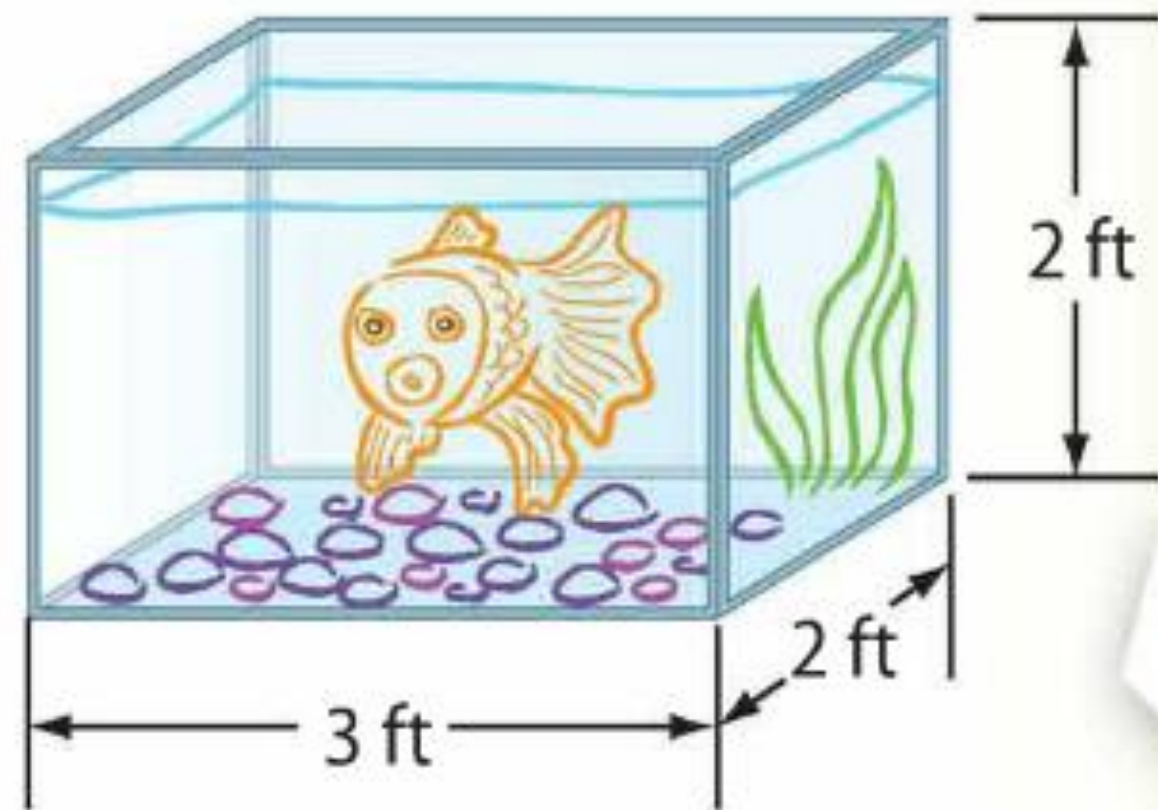


Real-World Link



Aquarium The dimensions of an aquarium are shown.

1. What is the area of the base of the aquarium? _____



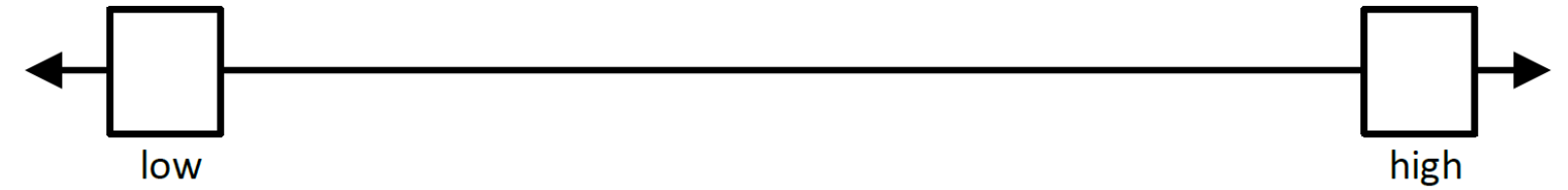
2. What is the height of the aquarium? _____

3. Fill in the blanks to find the volume.

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 12 \text{ ft}^3$$

What problem are you trying to figure out?

What estimates do you have?



Place your estimate on the number line.

What info do you already know about the problem?

What info do you need about the problem?

What is your conclusion? How did you reach that conclusion?

UNEXPECTED

PATTERN BREAKING

COUNTERINTUITIVE

KNOWLEDGE GAPS

OPEN MIDDLE





Map data ©2017 Google

500 mi 

My Village

Treasure Map

Google Maps

Beginning

Closed

Closed

Middle

Open

Closed

End

Closed


Closed



Using the digits 1-9, at most one time each, fill in the boxes to create a fraction that is as close to one as possible.

<hr/>	

Source: Peter Morris on openmiddle.com



	Open Middle	Closed Middle
Beginning	Closed	Closed
Middle	Open	Closed
End	Closed	Closed

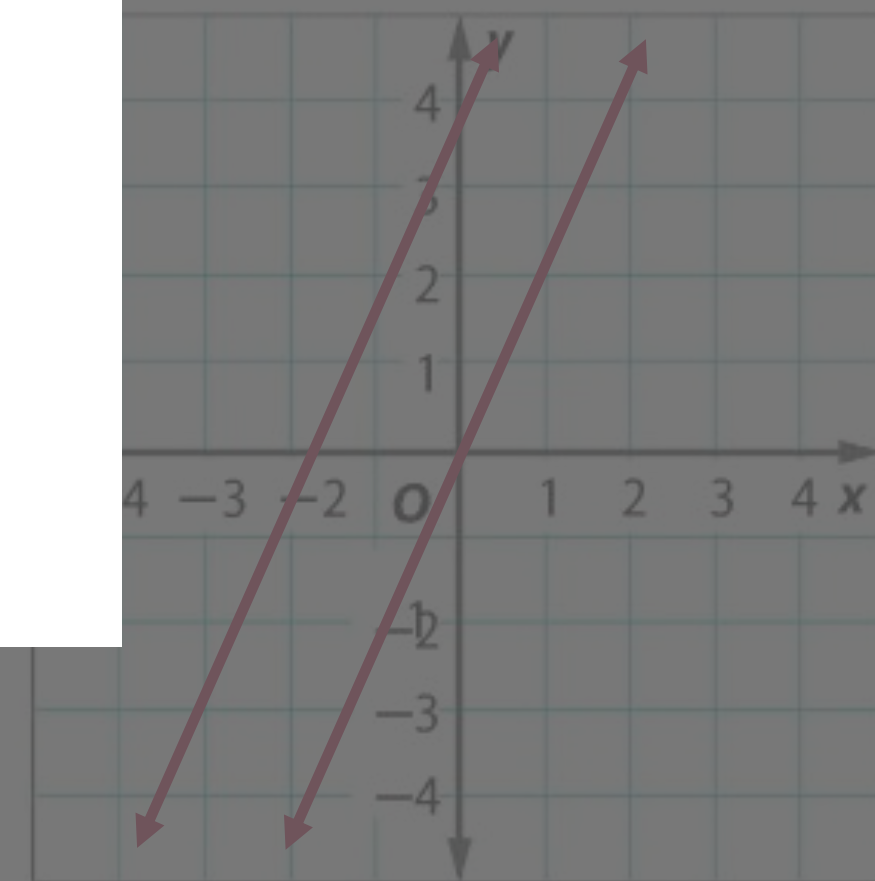
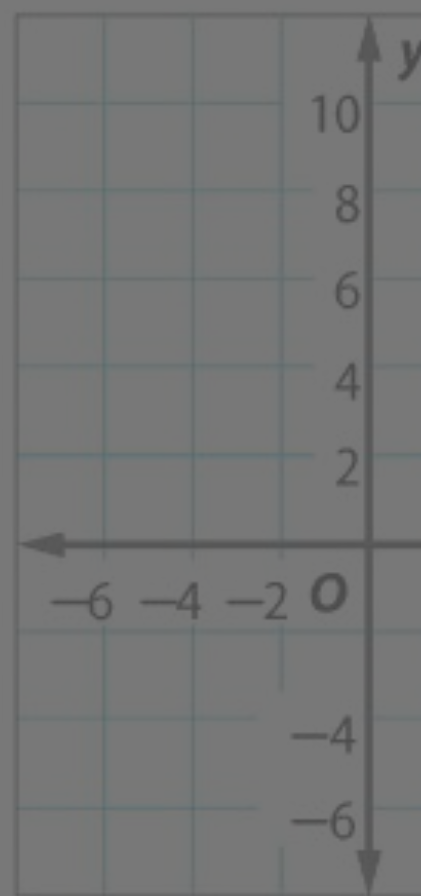
Independent Practice

Solve each system

1. $y = x$

$y = 2x - 4$

Show your work.



$$0 \neq 4$$

$$y = 2x$$

$$y - 2x = 4$$

$$y = 2x$$

UNEXPECTED

PATTERN BREAKING

COUNTERINTUITIVE

KNOWLEDGE GAPS

OPEN MIDDLE

STICKY ATTRIBUTES

SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

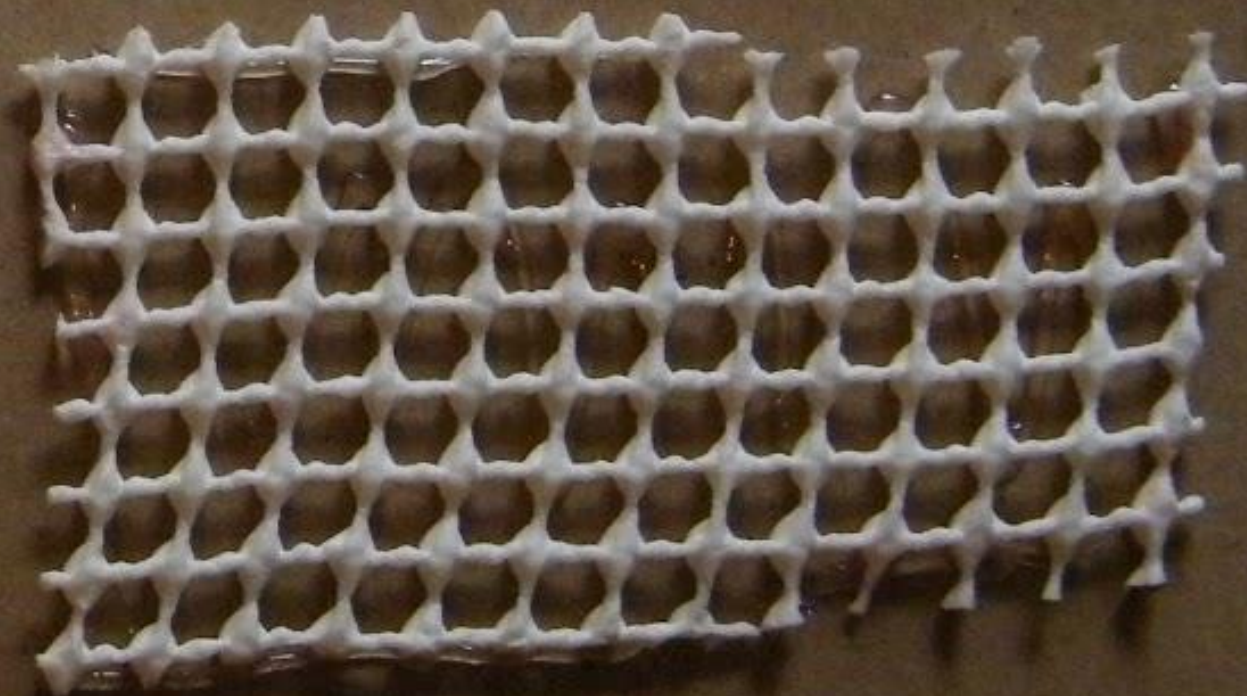
EMOTIONAL

STORIES

Soft



bumpy



Yellow the
stinky socks,

Yellow
the fragrant
flowers,

Scratch
and Sniff!

Scratch
and Sniff!

Source: Color Dog





HunterDouglas

HunterDouglas

WINDOW FASHIONS

Window fashions that express your style

FOOD & PAPER

COMPOST

VICTORIA

15553
PRESIDENT'S
MINI BRIE
19.6 OUNCES

5.99

4988
VALLEY SUN
SUN-DRIED TOMATOES
JULIENNE CUT 32 OUNCE

UNIT PRICE PER OUNCE
234

SELL PRICE
7.49

NAME: _____

DATE: _____

PERIOD: _____

Lesson 7 Skills Practice

Objective: Divide Decimals by Decimals

Divide.

1. $4.86 \div 0.2$

7. $2.25 \div 0.15$

13. $7.52 \div 0.74$

2. $628.2 \div 34.9$

8. $421.6 \div 0.4$

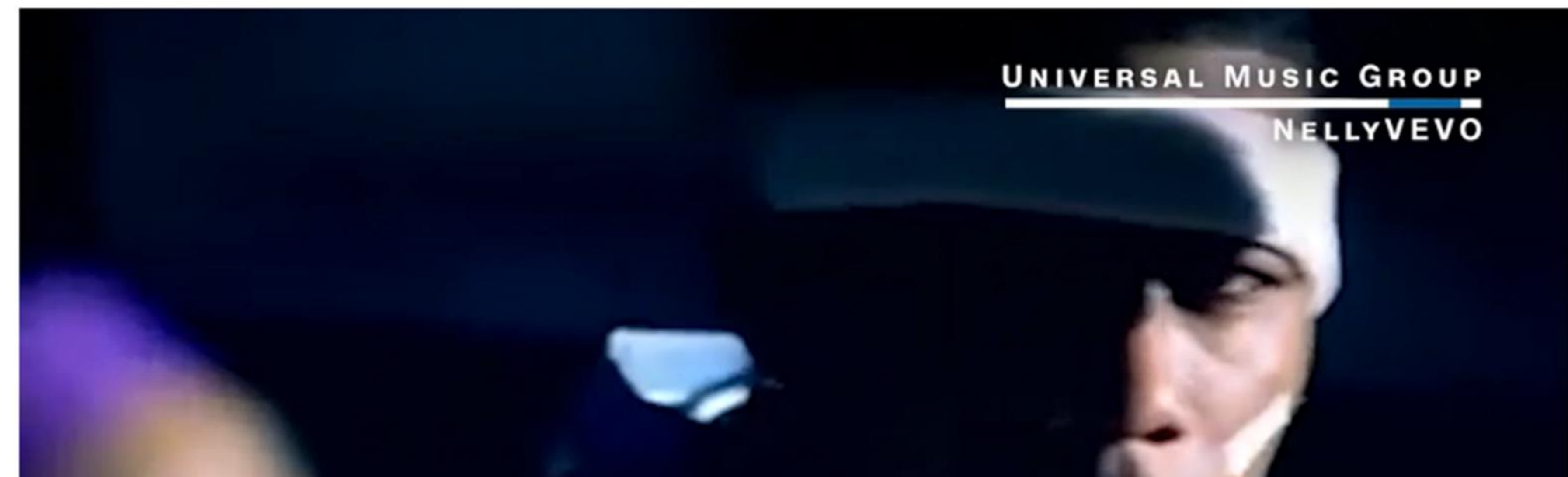
14. $0.105 \div 0.6$



Fans stream Nelly to help him pay off \$2.4 million debt

by [Lisa Respers France](#) @CNNMoney

🕒 September 13, 2016: 2:47 PM ET



- How many \$0.006 are there in \$2,400,000?
- How many 6 are there in 24?

Stretching, Compressing, and Reflecting Sine and Cosine Graphs

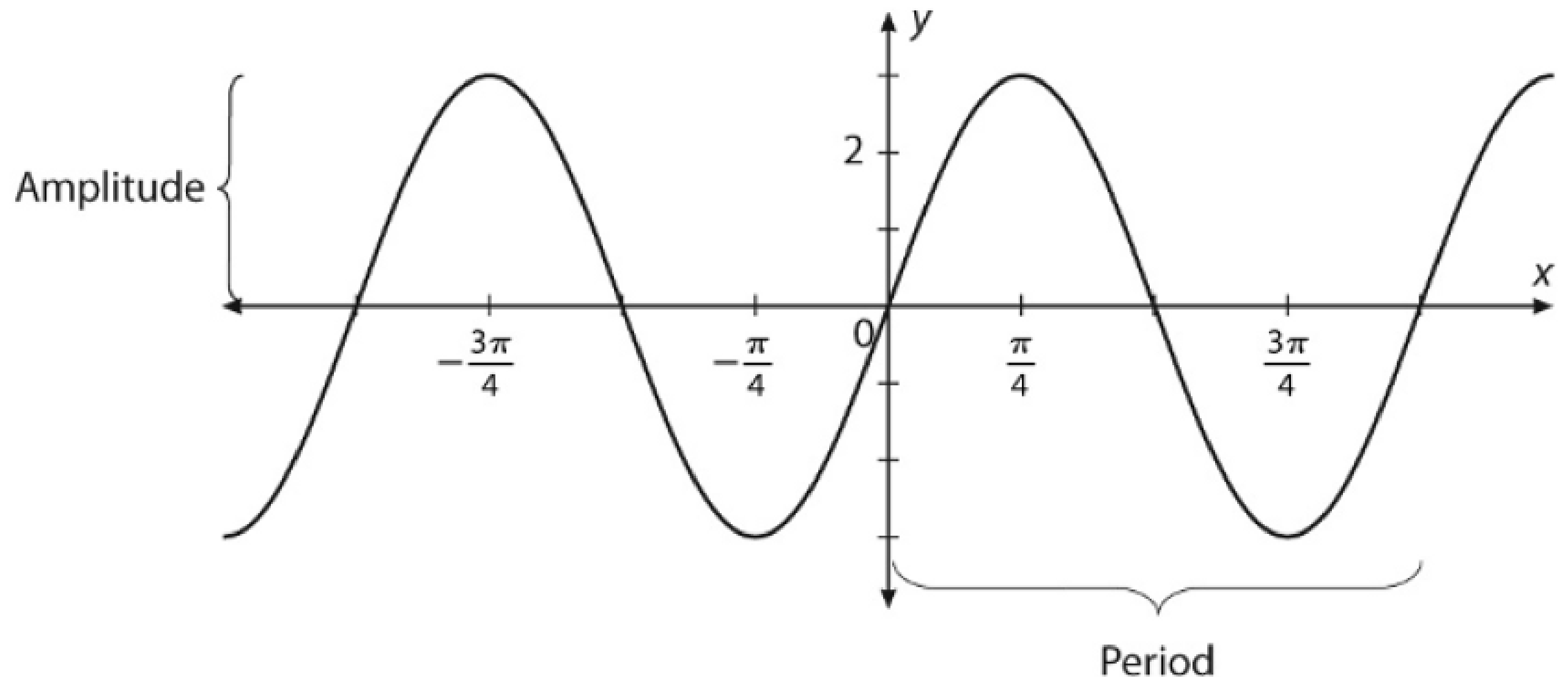
Reteach

For a sine function, $y = a \sin\left(\frac{1}{b}x\right)$.


$$\text{Amplitude} = |a|$$

$$\text{Period} = 2\pi \cdot b$$

If $a < 0$, the graph is reflected across the x -axis.



Example Write the function shown in the graph above.



distance from camera

adam poetzel

Source: graphingstories.com

$$P = 2L + 2R$$


$$A = \pi r^2$$

$$A = \frac{1}{2}bh$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

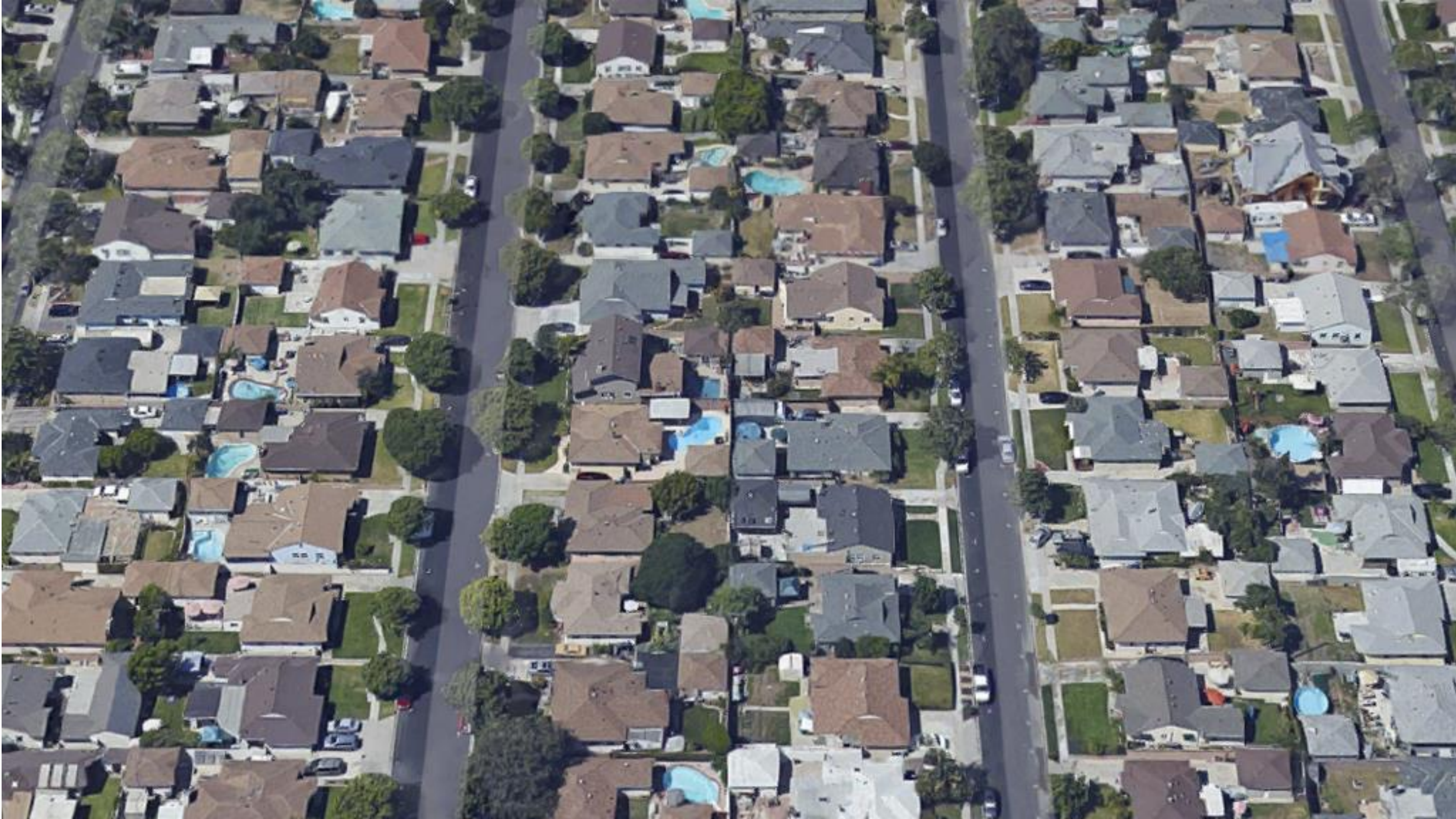
$$\log_b(x^y) = y \cdot \log_b(x)$$

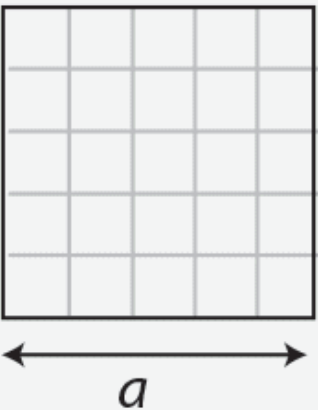
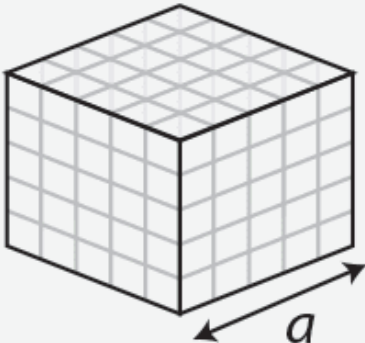

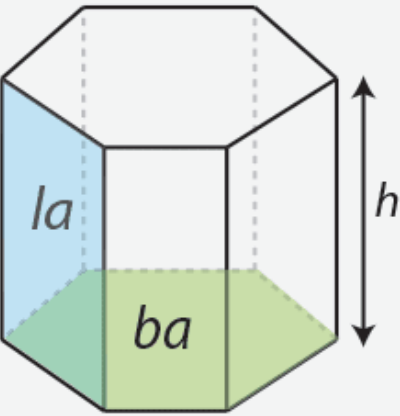
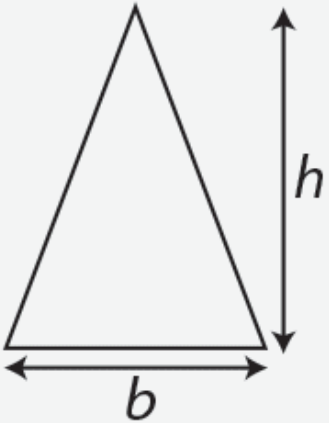
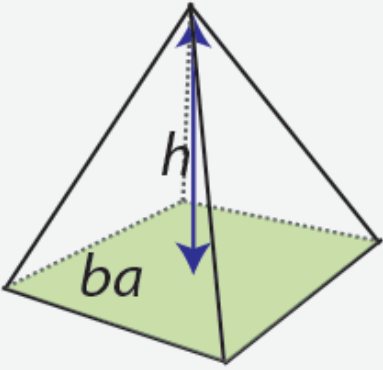

$$e^{i\pi} + 1 = 0$$


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

“Wait, was it a negative plus a negative or a negative times a negative that equals a positive.”

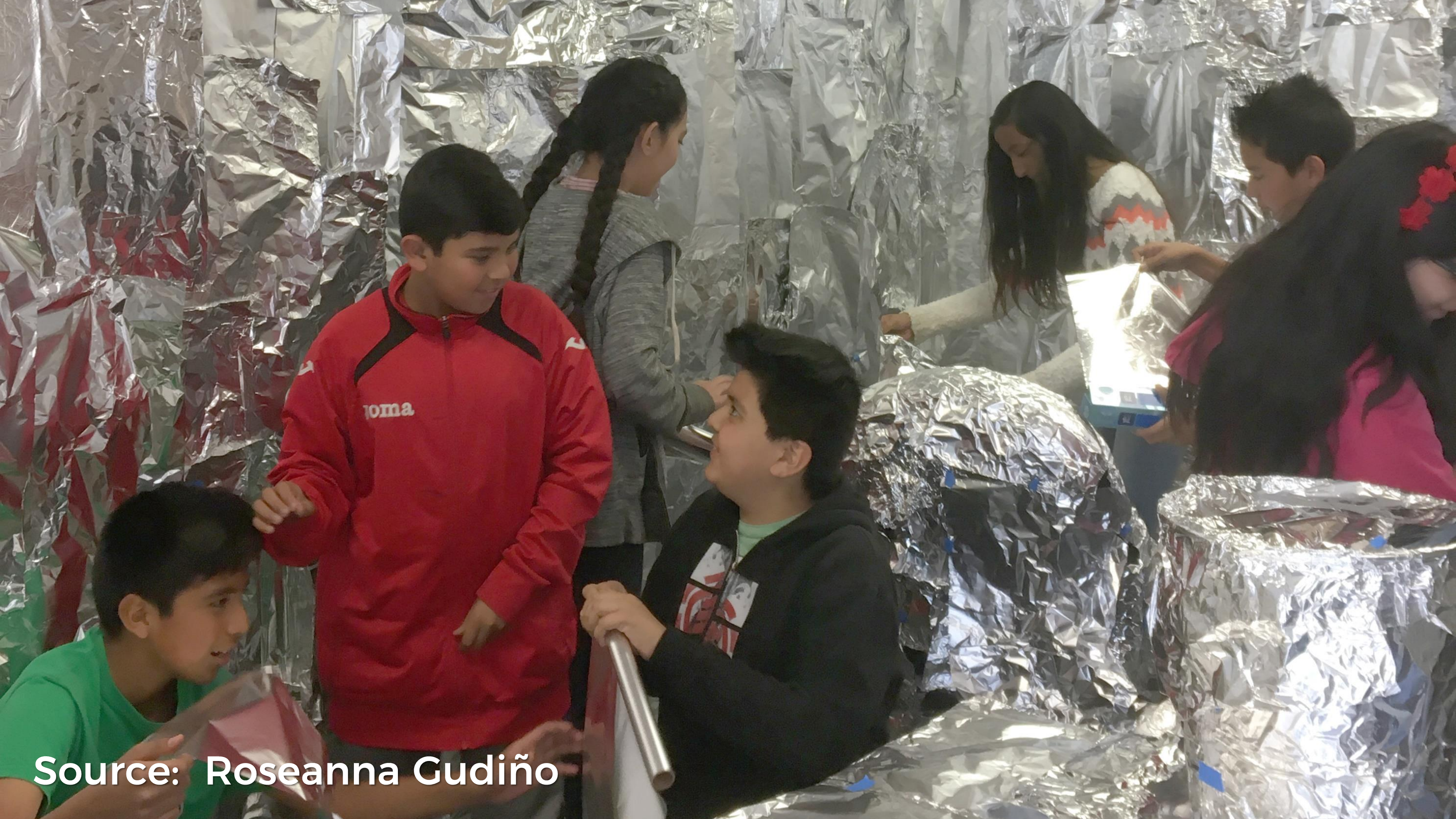
TOO MANY STUDENTS



Two-dimensional plane shapes	Area <i>The measure of how many squares will fit into a shape.</i> Units²	Three-dimensional solid shapes	Surface Area <i>The measure of the area of all outward facing sides.</i> Units²	Volume <i>The measure of how many cubes will fit into a shape.</i> Units³
Square 	Area = a^2 or $a \times a$ Example: $a = 5\text{cm}$ $\text{Area} = 5^2 = 25\text{cm}^2$	Cube 	Surface Area = $6 \times a^2$ Example: $a = 5\text{cm}$ $\text{Surface Area} = 150\text{cm}^2$	Volume = a^3 or $a \times a \times a$ Example: $a = 5\text{cm}$. $\text{Volume} = 125\text{cm}^3$
Rectangle 	Area = $w \times h$ Example: $w = \text{width} = 10\text{cm}$ $\text{height} = 20\text{cm}$ $\text{Area} = 10 \times 20 = 200\text{cm}^2$	Prism 	Surface Area = $2 \times ba + la$ Example: $ba = \text{base area} = 20\text{cm}^2$ $la = \text{lateral area (all sides)} = 60\text{cm}^2$ $\text{Surface area} = 2 \times 20 + 60 = 100\text{cm}^2$	Volume = $ba \times h$ Example: $ba = \text{base area} = 20\text{cm}^2$ $h = \text{height} = 5\text{cm}$ $\text{Volume} = 20 \times 5 = 100\text{cm}^3$
Triangle 	Area = $b \times h \times 0.5$ Example: $b = \text{base} = 20\text{cm}$ $h = \text{vertical height} = 15\text{cm}$ $\text{Area} = 20 \times 15 \times 0.5 = 150\text{cm}^2$	Pyramid 	Surface Area = $ba + la$ Example: $ba = \text{base area} = 16\text{cm}^2$ $la = \text{lateral area (all sides)} = 60\text{cm}^2$ $\text{Surface area} = 16 + 60 = 76\text{cm}^2$	Volume = $ba \times h \times 1/3$ Example: $ba = \text{base area} = 16\text{cm}^2$ $h = \text{height} = 9\text{cm}$ $\text{Volume} = 16 \times 9 \times 1/3 = 48\text{cm}^3$
n 	Area = $n \times s \times a \times 0.5$	n	Surface Area = $fa \times s$	



Source: robertkaplinsky.com/lessons




Source: Roseanna Gudiño



The progression of
multiplication



MY OLD METHODS

$$4(x + 3)$$


$$4(x) + 4(3)$$

$$(x + 3)(x - 1)$$

F $x(x)$

O $x(-1)$

I $3(x)$

L $3(-1)$

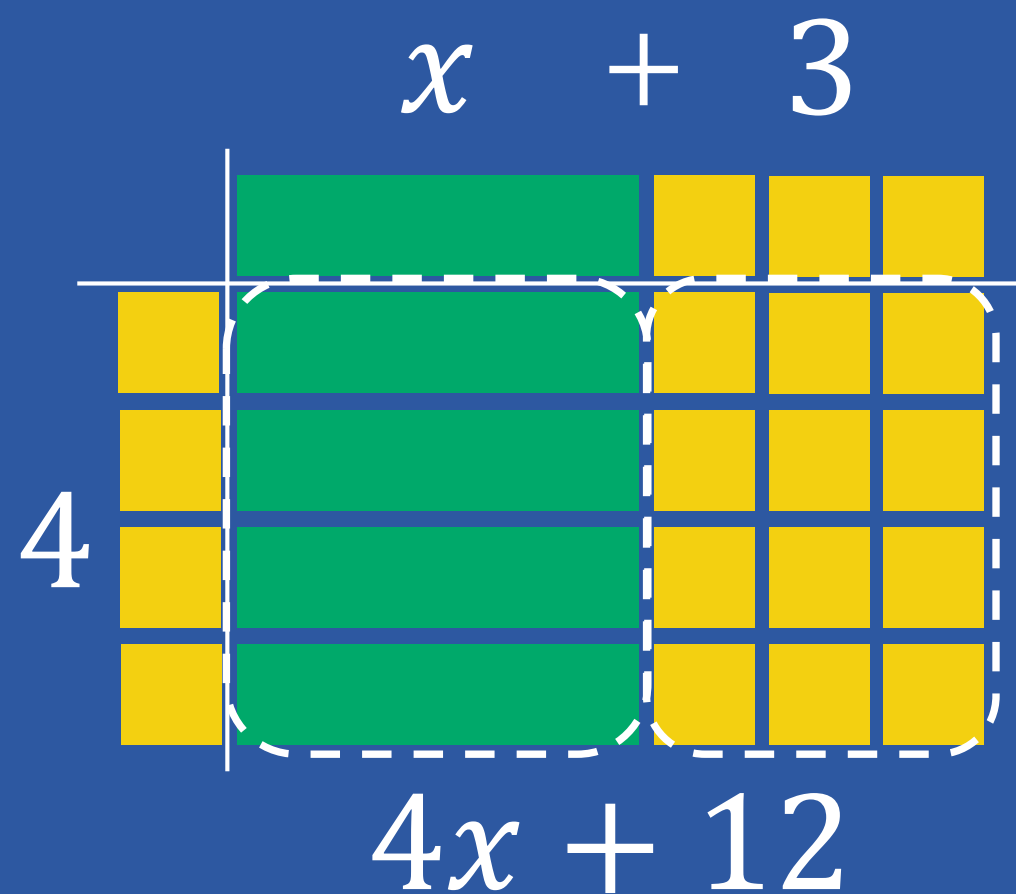
$$= x^2 - x + 3x - 3$$

$$= x^2 + 2x - 3$$

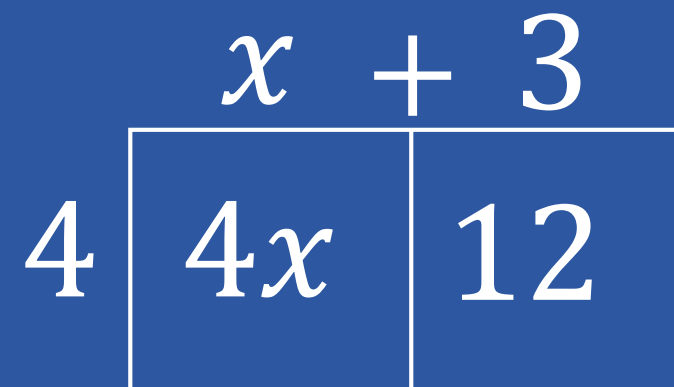
DISTRIBUTIVE PROPERTY

$$4(x + 3)$$

Concrete



Representational



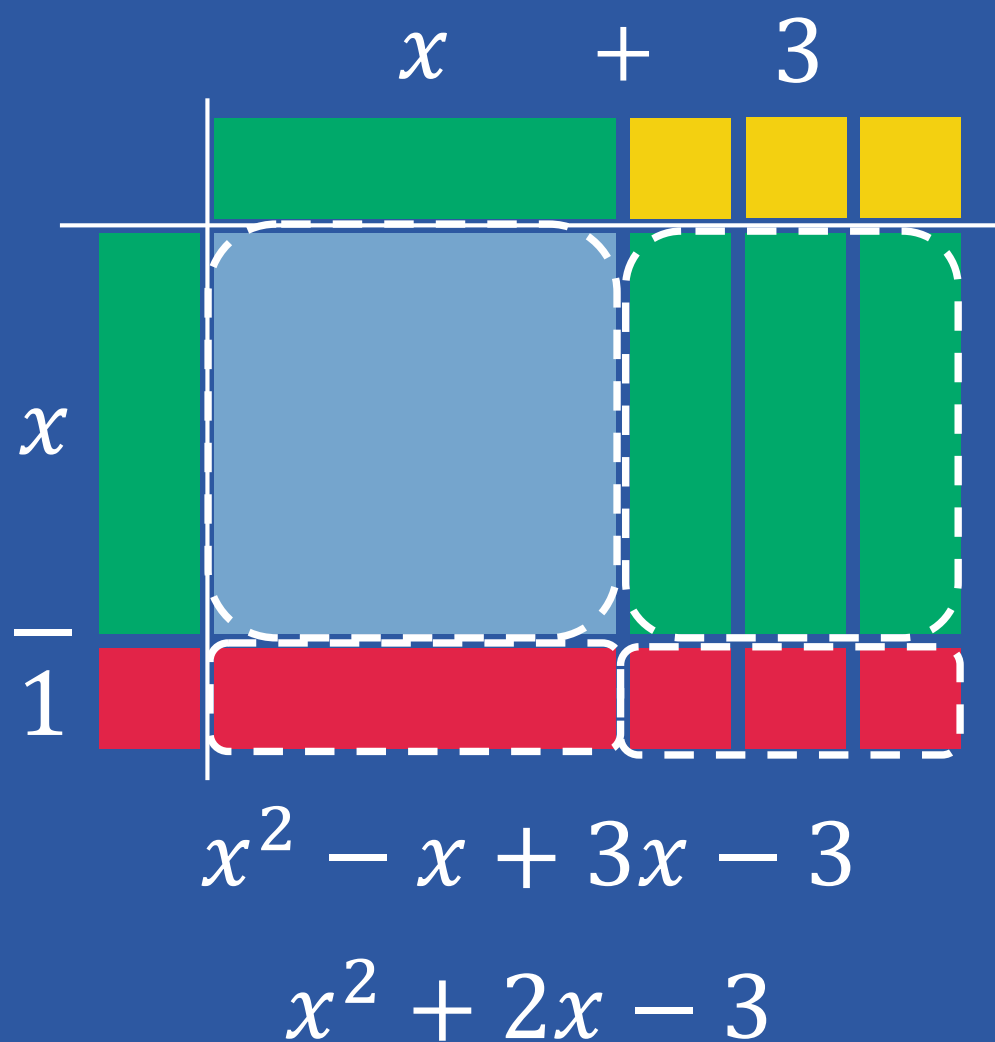
Abstract

$$\begin{aligned} &4(x + 3) \\ &= 4(x) + 4(3) \\ &= 4x + 12 \end{aligned}$$

BINOMIAL MULTIPLICATION

$$(x + 3)(x - 1)$$

Concrete



Representational

	x	$+$	3
x	x^2		$3x$
$-$			
1	$-x$		-3

$$x^2 - x + 3x - 3$$

$$x^2 + 2x - 3$$

Abstract

$$\begin{aligned} &(x + 3)(x - 1) \\ &= x^2 - x + 3x - 3 \\ &= x^2 + 2x - 3 \end{aligned}$$

STICKY ATTRIBUTES

SIMPLE

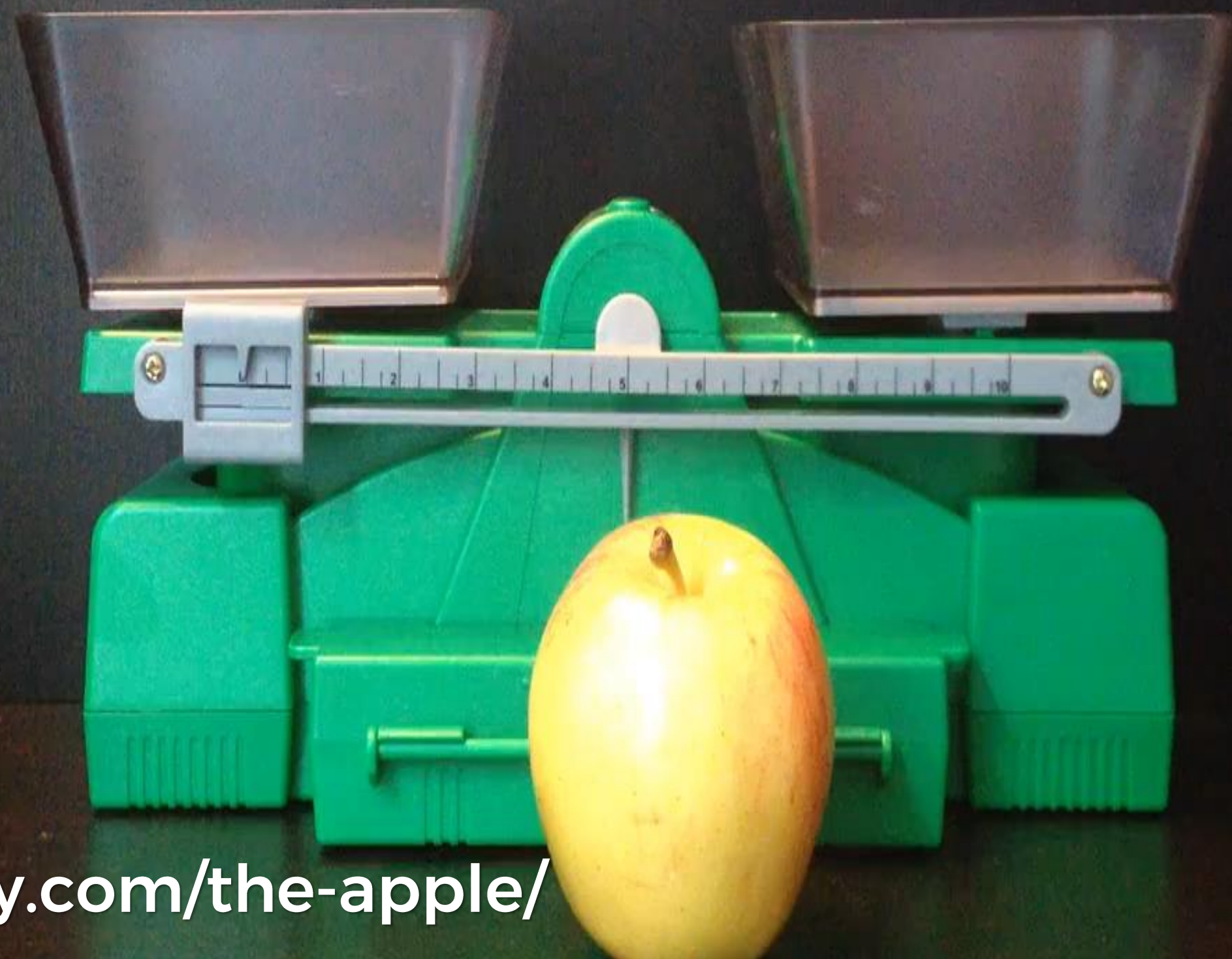
UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

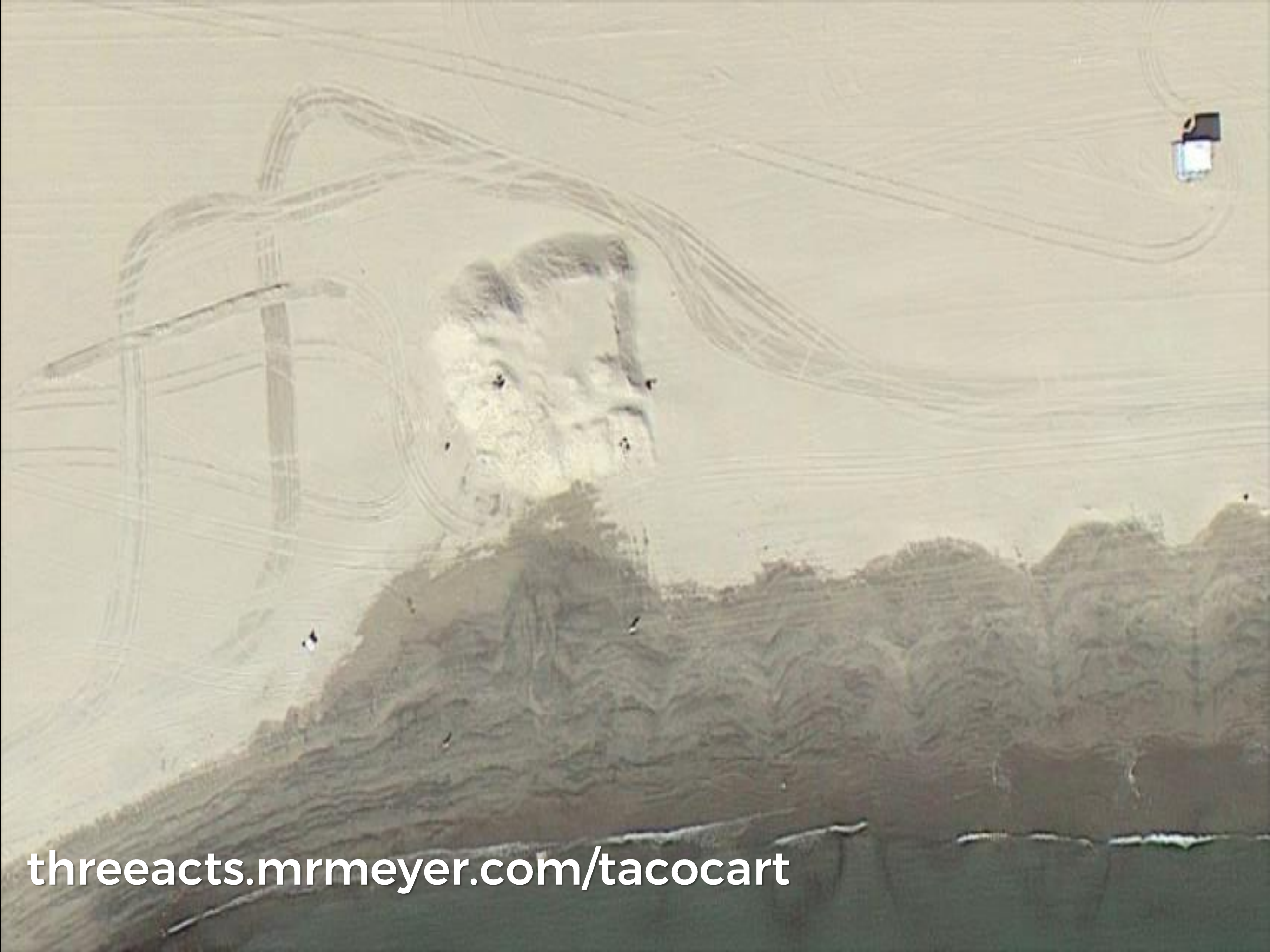
STORIES



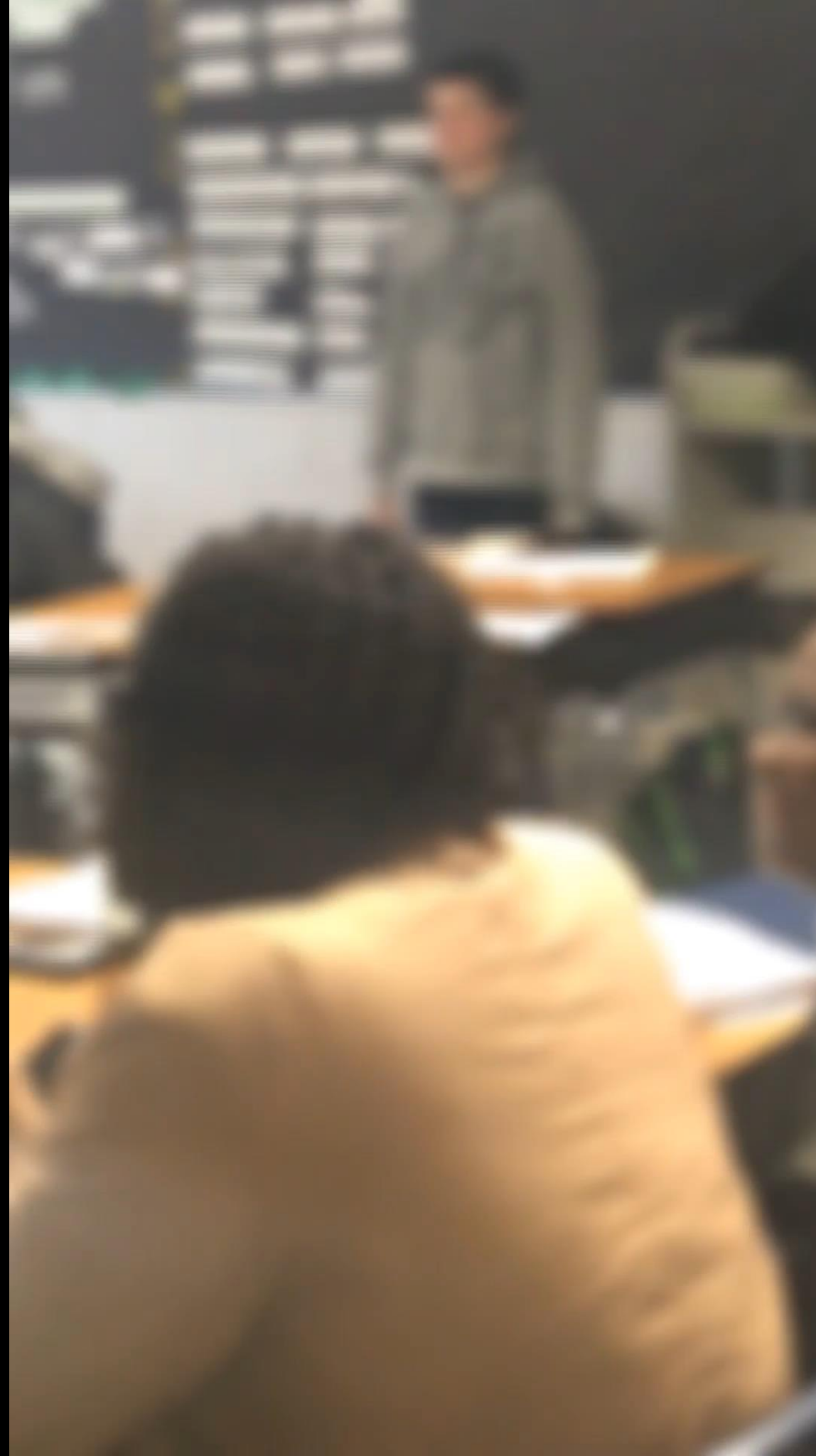
Source: gfletchy.com/the-apple/



Source: JJ Martinez



Source: threeacts.mrmeyer.com/tacocart



**Source:
Jenise Sexton**



Source: Tom Ward



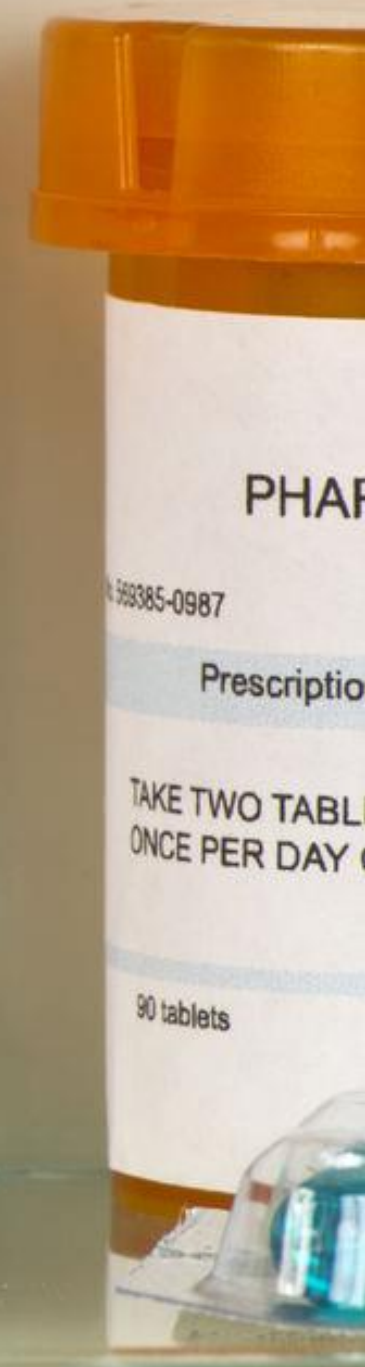
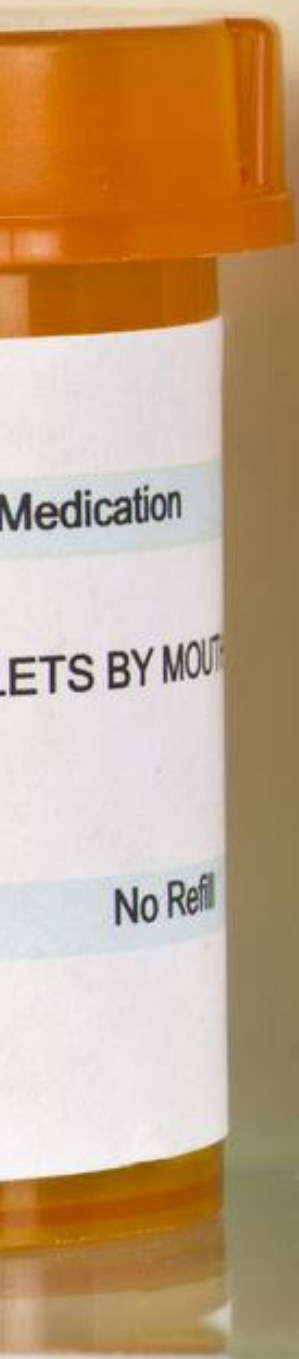
Source: Tom Ward



Source: fawnnguyen.com/barbie-bungee



**Source:
Fawn Nguyen**



Act 1 Engaging Opener

Act 2 Get Info. Solve Problem.

Act 3 Big Reveal

STICKY ATTRIBUTES

SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

STORIES







Source: mrvaudrey.com

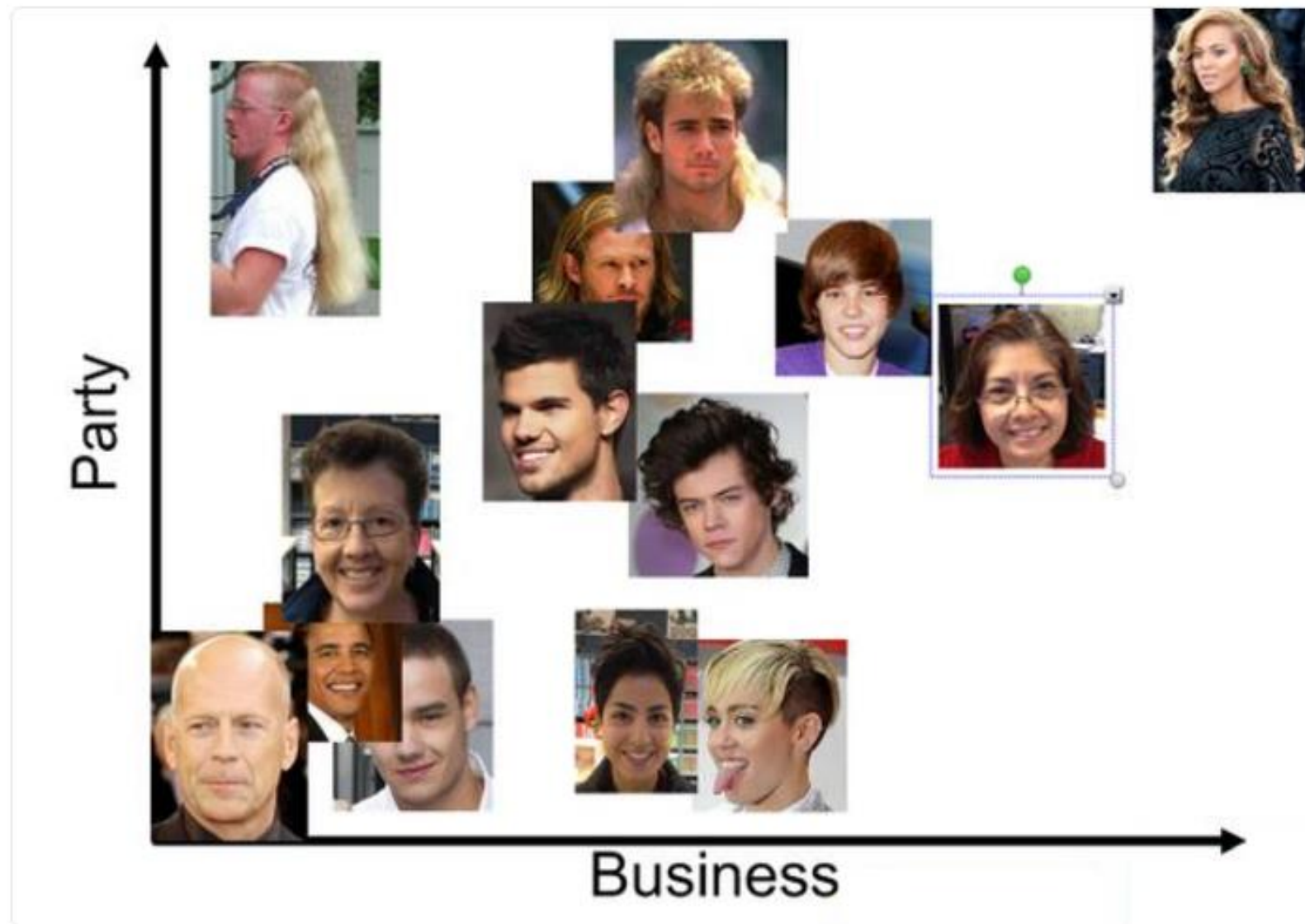


Matt Vaudrey
@MrVaudrey

Following



Things I never thought I'd say: "So you're saying that Thor has less party than Justin Bieber, but more than Obama?"



RETWEETS
4

LIKES
7



GREEN BAY

ARIZONA

	7	6	3	2	1	9	8	5	4	0
2	Vila	ROB S	SHEP	ROB S	SHEP CO.	PAPA	K+R	Vila	ROB S	DB
7	DB	DB	DB	K+R	ROB S	BILL	SHEP CO.	SHEP	SHEP CO.	DB.
8	K+R	ROB S	KB	CHRIS C	PAPA	RICK	ROB S	SHEP CO.	ROB S	KB
3	ROB S	SHEP	ROB S	DB	BILL	CHRIS C	SCHWEITZ LOCK	Vila	SHEP	SHEP CO.
4	SHEP CO.	DB	SHEP	RICK	ROB S	BILL	THE SCHWEITZ	THE SCHWEITZ	THE SCHWEITZ	THE SCHWEITZ
9	PAPA	ROB S	CHRIS C	CHRIS C	CHRIS C	KB	THE SCHWEITZ	DB	BILL	SHEP
0	DB	SHEP CO.	K+R	RICK	DB	ROB S	DB	Vila	RICK	Vila
5	BILL	DB	ROB S	ROB S	Vila	Vila	ROB S	KB	ROB S	K+R
1		ROB S		Vila	ROB S			KB	Vila	SHEP

• PAYOUTS •

1ST QUARTER \$25

HALFTIME \$50

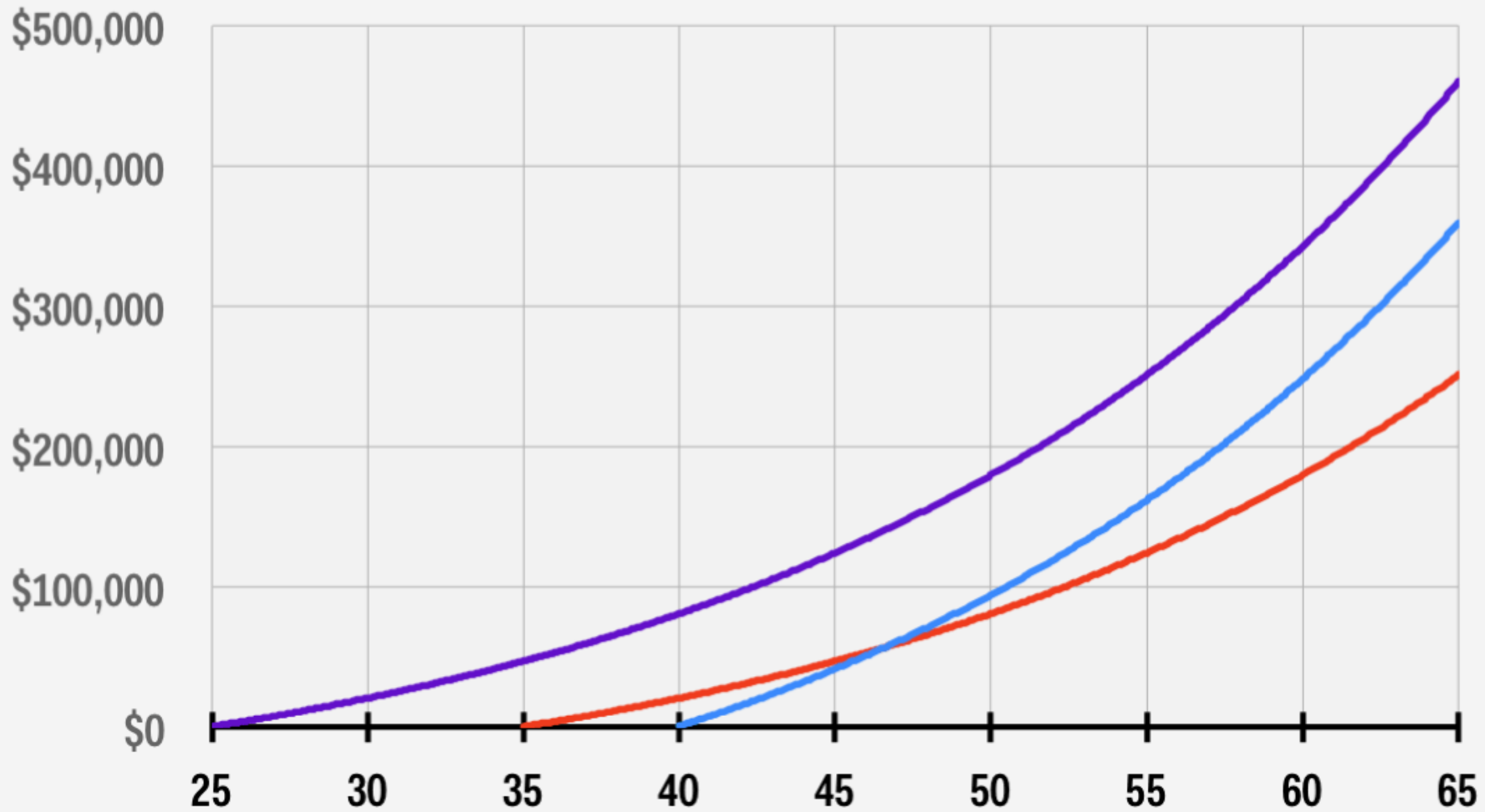
3RD QUARTER \$25

FINAL \$100

\$2 SQUARES

Start saving in your 20s

— Start at 25 — Start at 35 — Start at 40, double savings





Source: robertkaplinsky.com/lessons

tangible > magnitude

STICKY ATTRIBUTES

SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

STORIES

11:35 34°



abc 7 Chicago.com

Source: robertkaplinsky.com/lessons

20. Crime Two men used ropes made from sheets to escape from a tall prison in Chicago. If they needed to make a total of 150 feet of rope and each sheet made 6 feet of rope, how many sheets did they need?



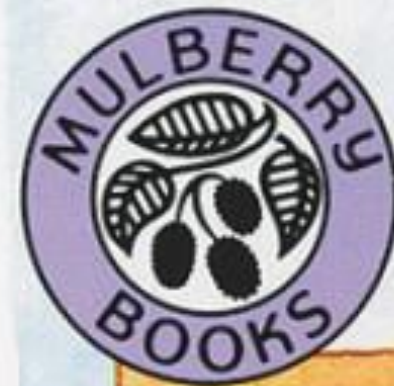
If you were as strong as an **ANT**...



Source: If You Hopped Like A Frog by David M. Schwartz

The Doorbell Rang

by Pat Hutchins



DO YOU

SEE IT?

Via: Sara VanDerWerf

RobertKaplinsky.com



IMPORTANCE OF CONTEXT

- Play four songs
- Tapped out
- Write down song names
- Share answers with neighbors
- Listen again with song names

SONG #1



SONG #2

SONG #3

SONG #4

SONG #1

Itsy Bitsy Spider

SONG #2

Wheels On The Bus

SONG #3

**Row Row Row
Your Boat**

SONG #4

Take Me Out To The Ballgame




Robert Kaplinsky

@robertkaplinsky



Random favor: please listen to me tapping out 4 songs and try to guess the name. Should take < 2 min. It's not easy!

	<p>Recognizing Tapped Songs</p> <p>Please listen to each of the four songs, type in the name of the song, and the click submit. You may have no clue about what the song is called. If that happens, just write something like, "I don't..."</p> <p>docs.google.com</p>
---	--

RETWEET

1



2:47 PM - 13 Jun 2017

TAKEAWAYS (PART ONE)

- Of 192 people surveyed:
 - Itsy Bitsy Spider: ~41%
 - Wheels on the Bus: ~29%
 - Row Your Boat: ~25%
 - Take Me Out to the Ballgame: ~3%

TAKEAWAYS (PART TWO)

- Many said, “I’m sorry. I don’t know.”
- Many said, “I’m not good at this.”
- Many said, “I don’t like this.”

COURSE OF KNOWLEDGE

Context



Dissertation

Executive Summary

Formulas

Abstract

STICKY ATTRIBUTES

SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

STORIES

SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

STORIES



SIMPLE

UNEXPECTED

CONCRETE

CREDIBLE

EMOTIONAL

STORIES

NAME: _____

DATE: _____

Lesson 12 Skills Practice

Objective: Write PIN Backwards

Write backwards.

1. 0461
1640

2. 3625
5263

3. 9572
2759

4. 8713
3178

7. 6842
2486

8. 7532
2357

9. 1549
9415

13.

14

8109

Home

Math resources that create problem solvers, not robots.

Download my favorite lessons for elementary, middle, and high school.

[GET FREE LESSONS](#)[TAKE MY WORKSHOP](#)

What happens next?

1

Keep coming back for more free lessons and resources.

2

Learn implementation tips from my blog and weekly emails.

3

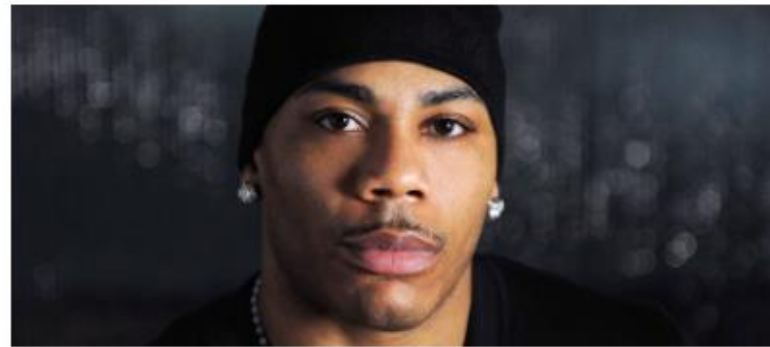
Take my online workshop for more implementation support.

Lessons

- [View all](#)
- [Kinder](#)
- [1st](#)
- [2nd](#)
- [3rd](#)
- [4th](#)
- [5th](#)
- [6th](#)
- [7th](#)
- [8th](#)
- [Alg.1](#)
- [Geo](#)
- [Alg.2](#)



How Much Money Were Those Pennies?



How Can We #SaveNelly?



How Many Chip Bags Will There Be?



How Can We Make Stronger Passwords?



Search

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First Name

Last Name

Email address

Zip Code (optional)

Job Role(s)

- Elementary School
- Middle School
- High School
- Higher Education

Resources

Depth of Knowledge

- ▶ [Open Middle](#)
- ▶ [Open Middle Worksheet - English \(student version\)](#)
- ▶ [Open Middle Worksheet - English \(document camera version\)](#)
- ▶ [Open Middle Worksheet - Spanish \(student version\)](#)
- ▶ [Open Middle Worksheet - Spanish \(document camera version\)](#)
- ▶ [Robert's blog posts on Depth of Knowledge](#)
- ▶ [Tool to Distinguish Between Depth of Knowledge Levels](#)

Problem-Based Lesson Tools

- ▶ [Problem-Based Lesson Search Engine](#)
- ▶ [Problem Solving Framework v8.1](#)
- ▶ [Robert's blog posts on Problem-Based Learning](#)

Problem-Based Lesson Sources

- ▶ [101 Questions](#)
- ▶ [Andrew Gael](#)
- ▶ [Andrew Stadel](#)
- ▶ [Catherine Castillo](#)
- ▶ [Christina Tondevold](#)
- ▶ [Dan Meyer](#)
- ▶ [Dane Ehlert](#)
- ▶ [Emergent Math's Problem Based Curriculum Maps](#)

Search



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sent to you via email!

First Name

Last Name

Email address

Zip Code (optional)

Job Role(s)

- Elementary School
- Middle School
- High School
- Higher Education

6 SIGNS OF

UNFORGETTABLE LESSONS

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