Tustin USD

ROBERT KAPLINSKY

@robertkaplinsky

Source: Andrew Stadel via www.estimation180.com

Height:
72 inches

Source: Andrew Stadel via www.estimation180.com

Height:
72 inches

Width:
36 inches

Source: Andrew Stadel via www.estimation180.com

Height:
72 inches

Width:
36 inches

Depth:
18 inches

Source: Andrew Stadel via www.estimation180.com

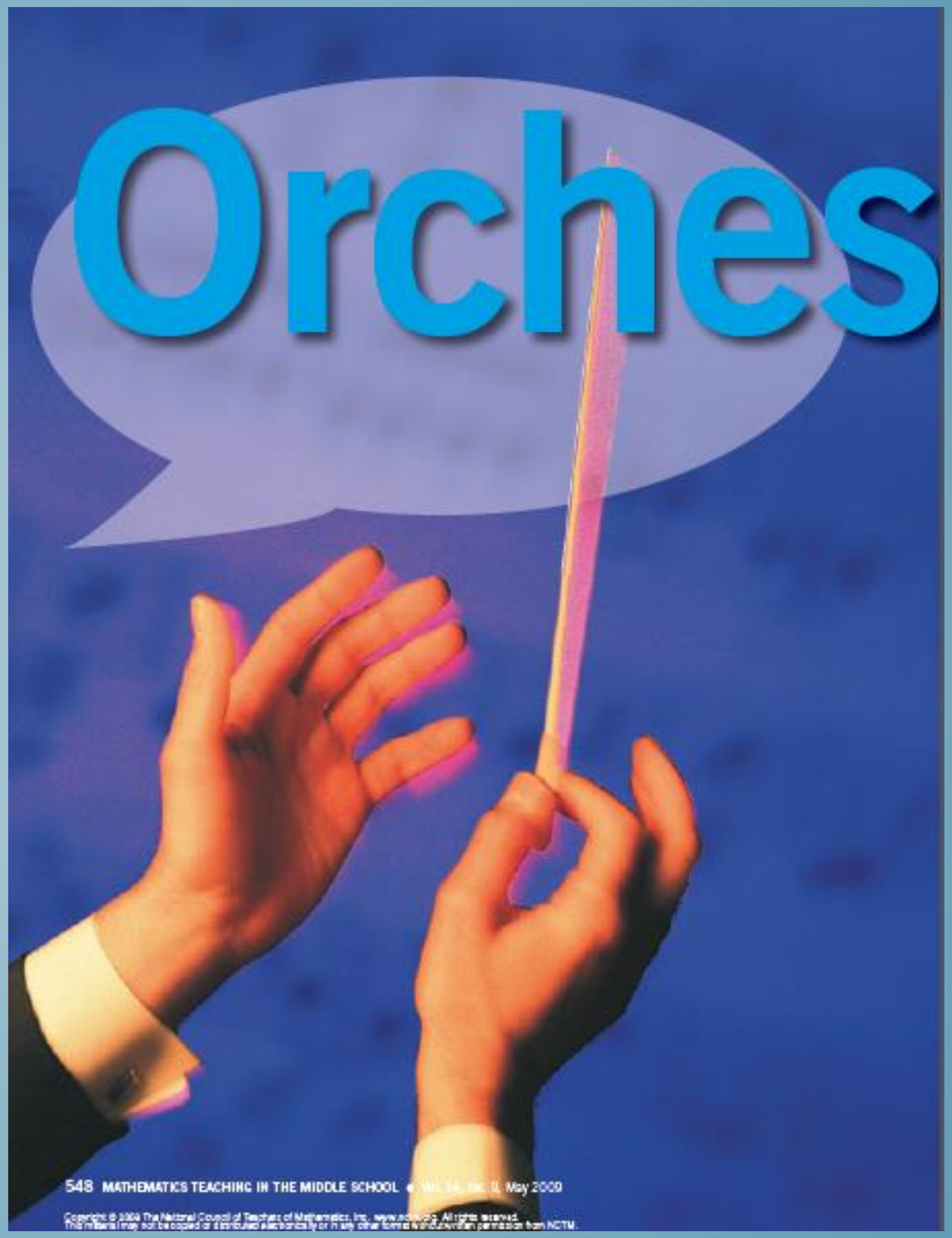
Sticky note

Dimensions:
3” x 3”

Source: Andrew Stadel via www.estimation180.com

Source: Andrew Stadel via www.estimation180.com

FIVE PRACTICES



Discussion Questions

- "Giving students too much or too little support, or too much direction, can result in a decline in the cognitive demands of the task." (p. 550) Why?
- "By making purposeful choices about the order in which students' work is shared, teachers can maximize the chances that their mathematical goals for the discussion will be achieved." (p. 554) What ways do teachers currently select students? How would you suggest they change their selection process after reading this?
- What challenges might teachers have when trying to "connect" student solutions? (p. 554)

Implementing the Five Practices

1. Anticipate potential student responses to the file cabinet problem.
2. Review the ten student work samples that represent students in your classroom.
3. Figure out which students you would have share their mathematical work.
4. Determine the order you would have those students present their work.
5. Decide on which connections you would emphasize between the students' work and mathematical ideas.

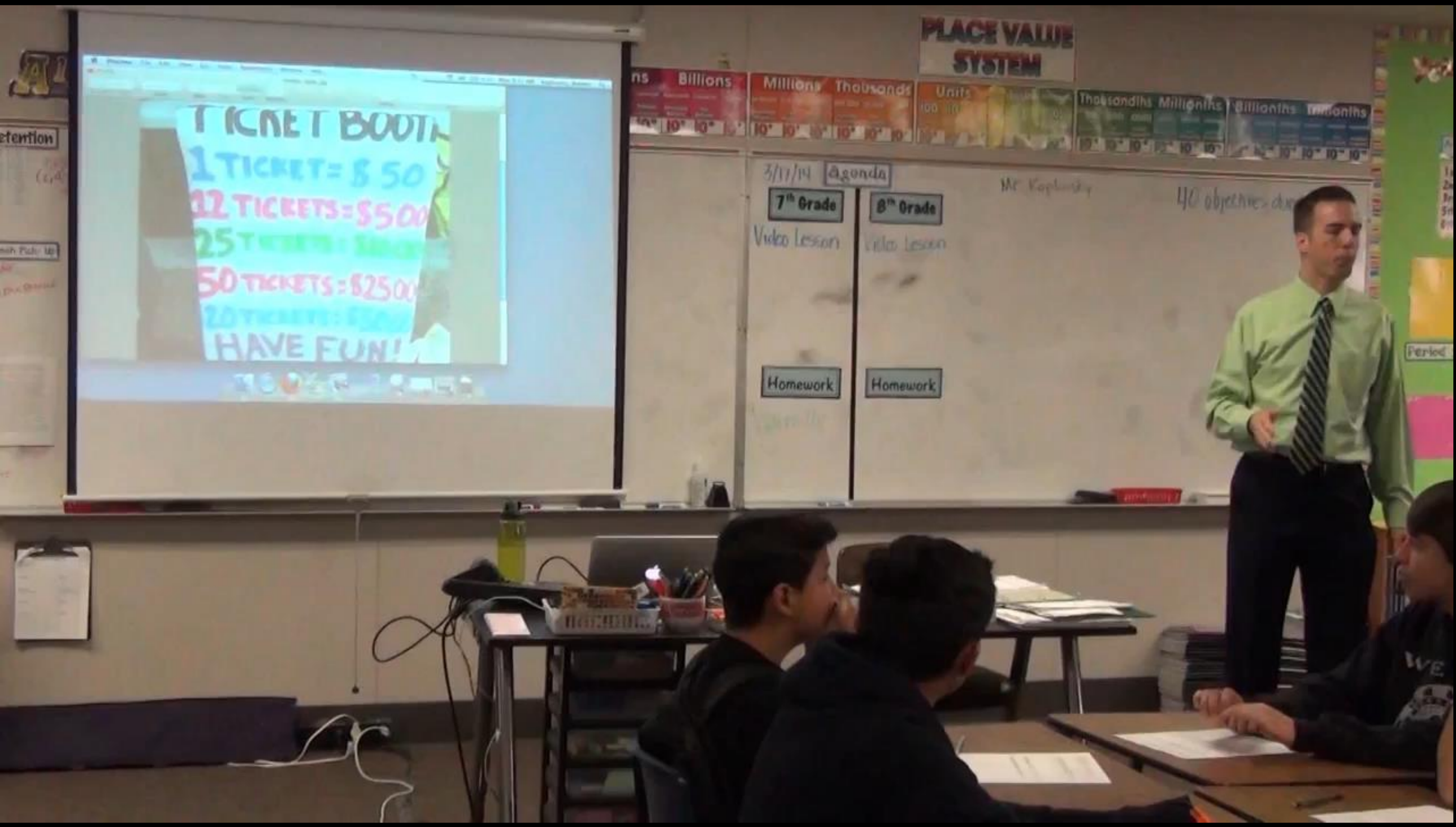
Posters

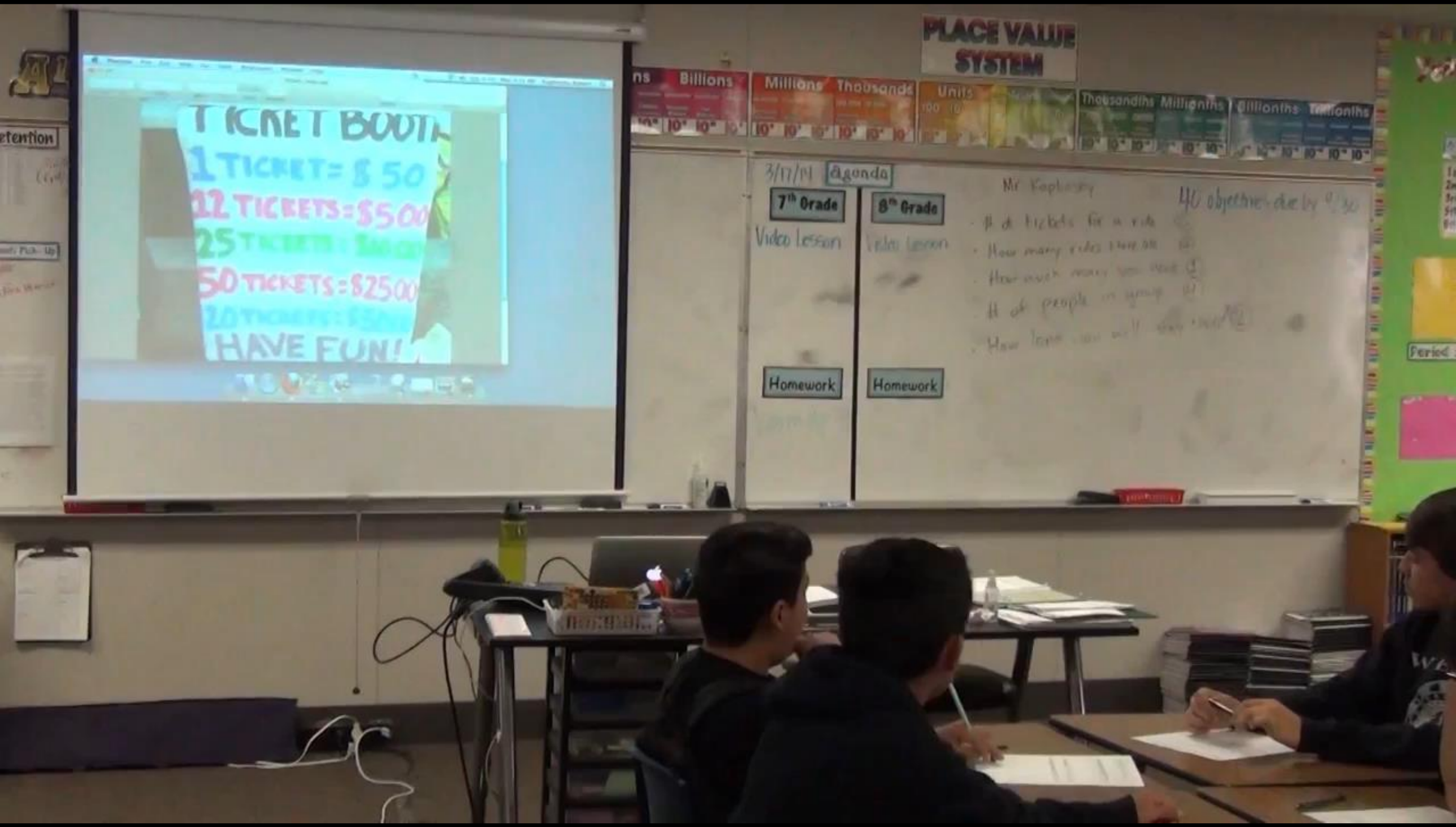
- At the top of the poster, list the selection strategy used by your group. For example:
  - Starting with the most commonly used strategy and moving to one that few students used.
  - Starting with a strategy that is more concrete and moving to strategies that are more abstract.
  - Incorporating wrong answers to address common misconceptions.
- Attach those students' work to the poster in the order that you would present it.
- Next to the student work list the questions you would ask the student(s) or ideas that you would want to come out as a result of showing that student's work.

Setting Up The Problem

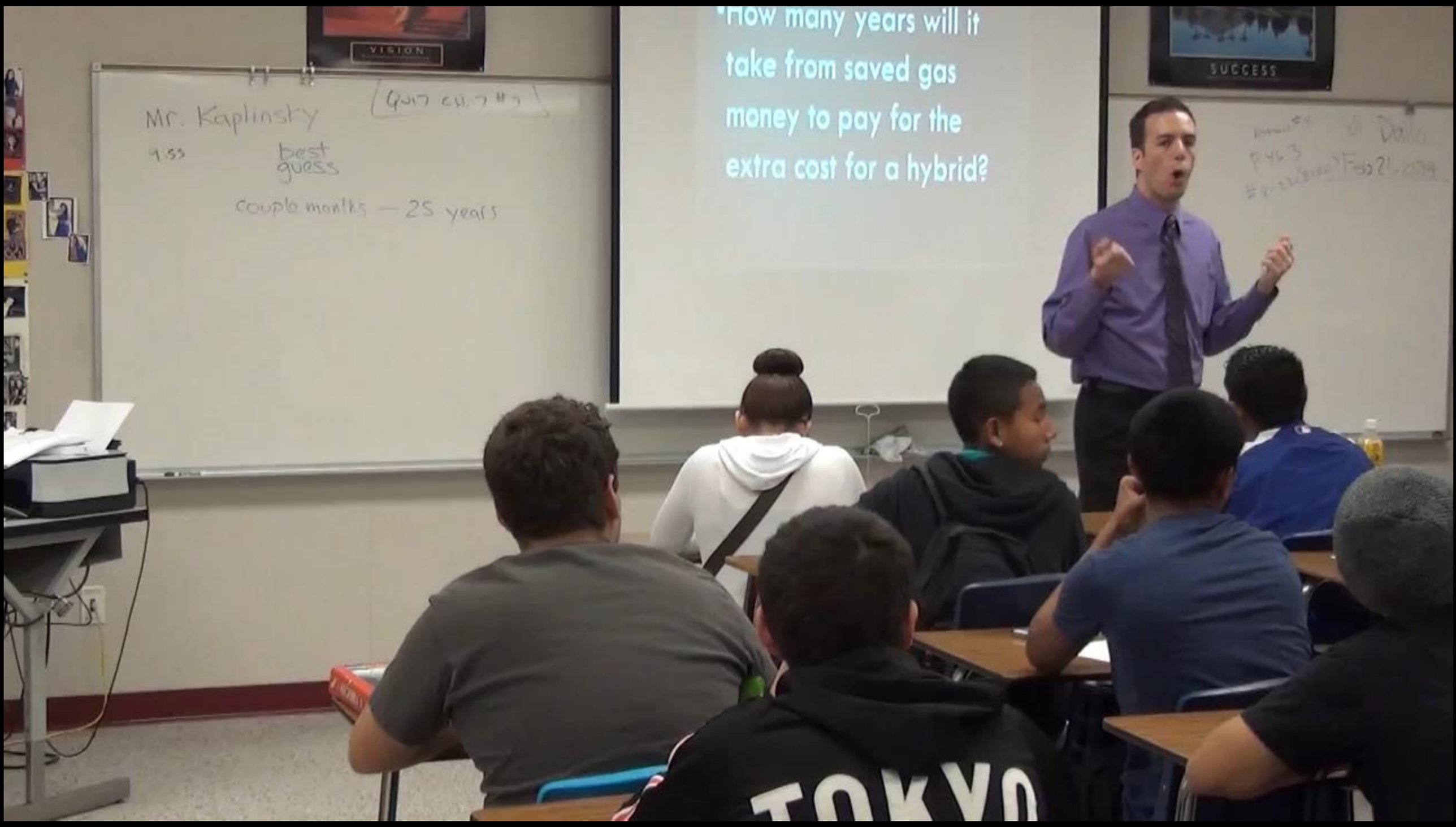
- What do you do when students ask for data/information I don't have, hadn't considered, or forgot to get?
- What do you do when students ask for information that is probably not important or that they don't actually need?


TICKET BOOTH
1 TICKET = $.50
12 TICKETS = $5.00
25 TICKETS = $10.00
50 TICKETS = $25.00
120 TICKETS = $50.00
HAVE FUN!

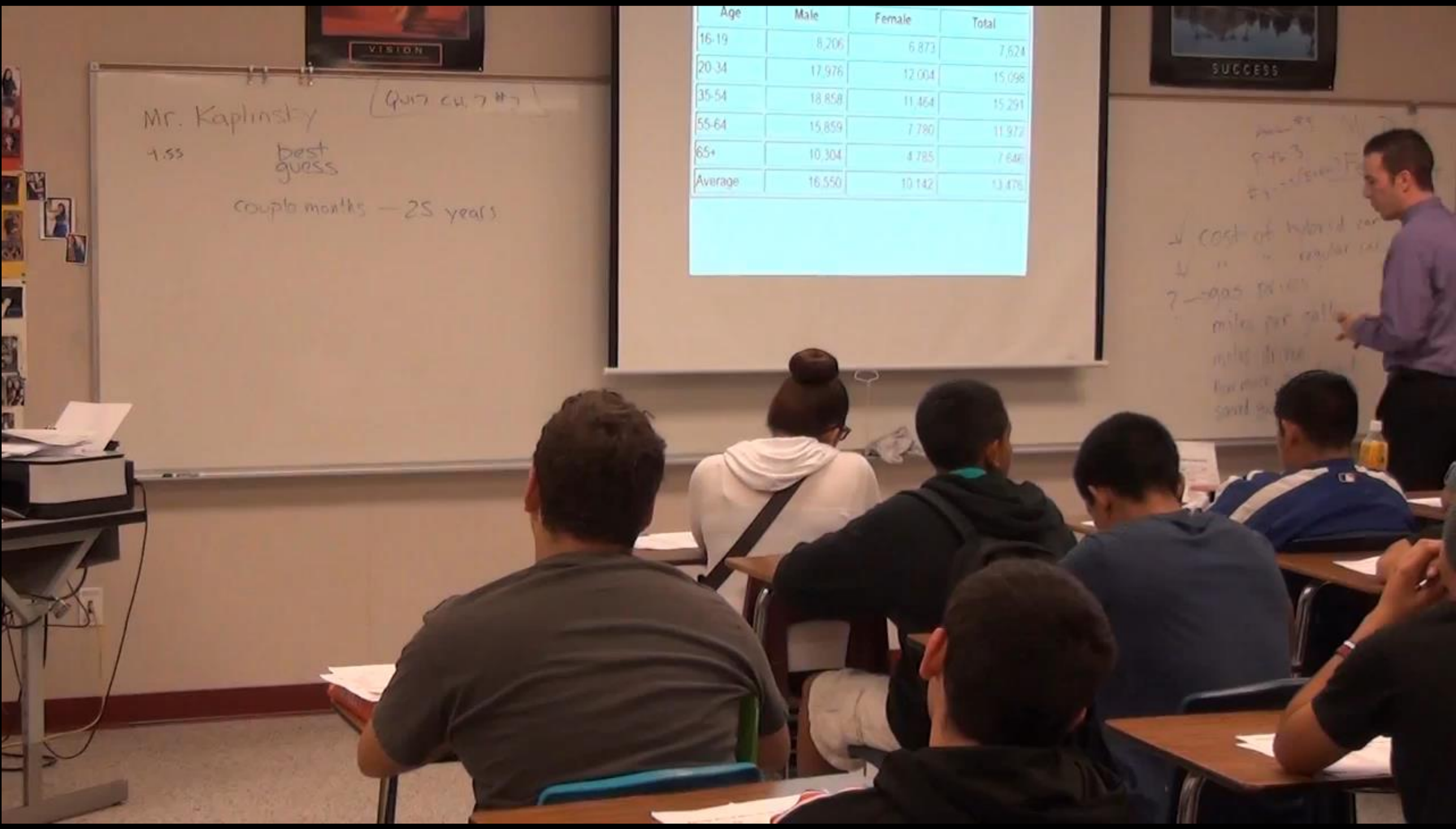

TICKET BOOTH
1 TICKET = $ 50
12 TICKETS = $500
25
50 TICKETS = $250
HAVE FUN!
PLACE VALUE SYSTEM
Billions
Millions
Thousands
Units
Thousandths
Millionths
Billionths
3/11/14
Agenda
7th Grade
8th Grade
Video Lesson
Video Lesson
Homework
Homework
Period


TICKET BOOTH
1 TICKET = $ 50
12 TICKETS = $500
25 TICKETS
50 TICKETS = $2500
HAVE FUN!
PLACE VALUE SYSTEM
Billions
Millions
Thousands
Units
Thousandths
Millionths
Billionths
Trillionths
3/17/11
Agenda
7th Grade
8th Grade
Video lesson
Homework
Homework
Period

Does a hybrid car pay for itself?


VISION
Mr. Kaplinsky
best guess
couple months — 25 years
*How many years will it take from saved gas money to pay for the extra cost for a hybrid?
SUCCESS
TOKYO

Age	Male	Female	Total
16-19	8,206	6,873	7,624
20-34	17,976	12,004	15,098
35-54	18,858	11,464	15,291
55-64	15,859	7,780	11,972
65+	10,304	4,785	7,648
Average	16,550	10,142	13,476



Age	Male	Female	Total
16-19	8,206	6,873	7,624
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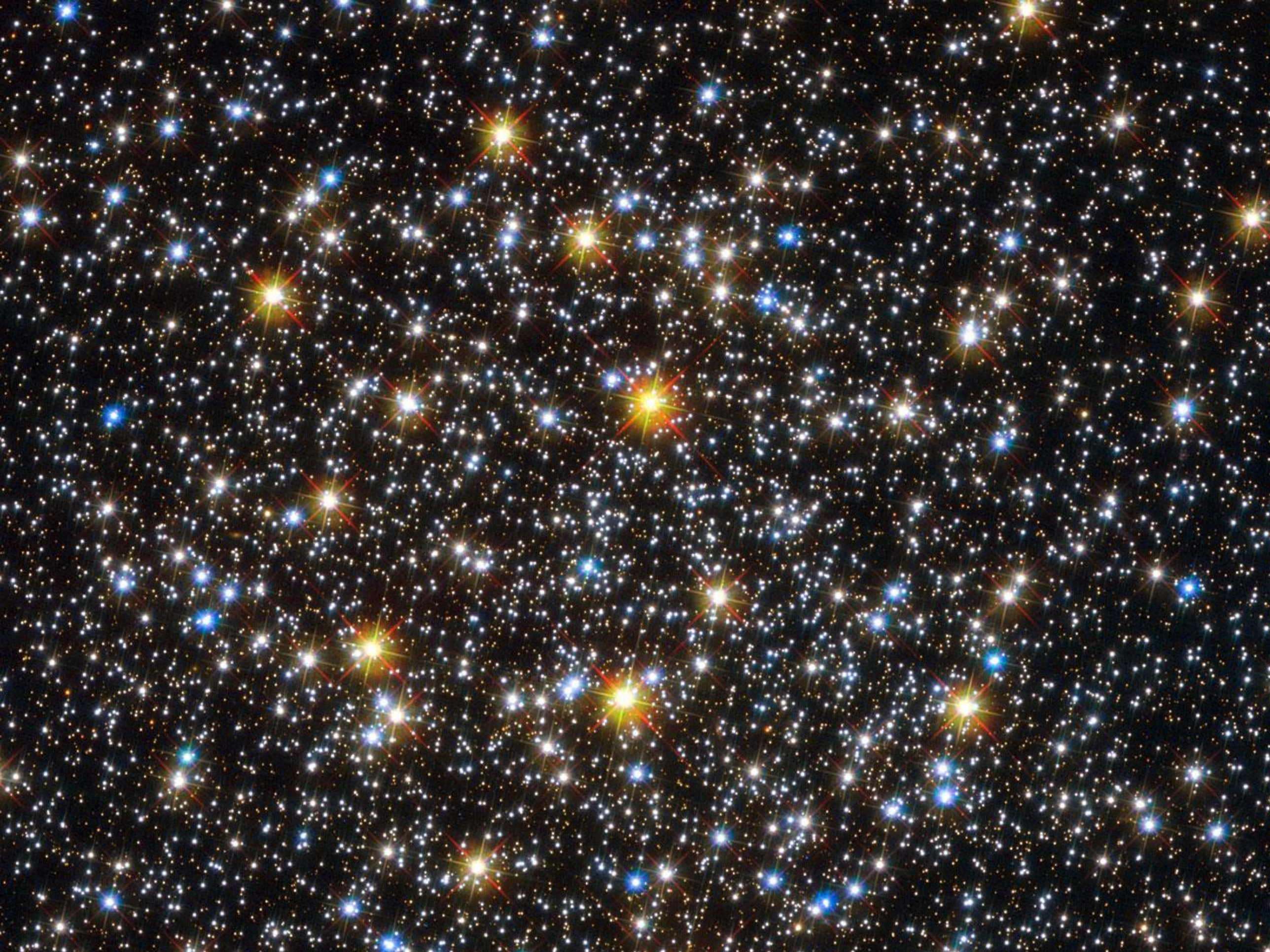
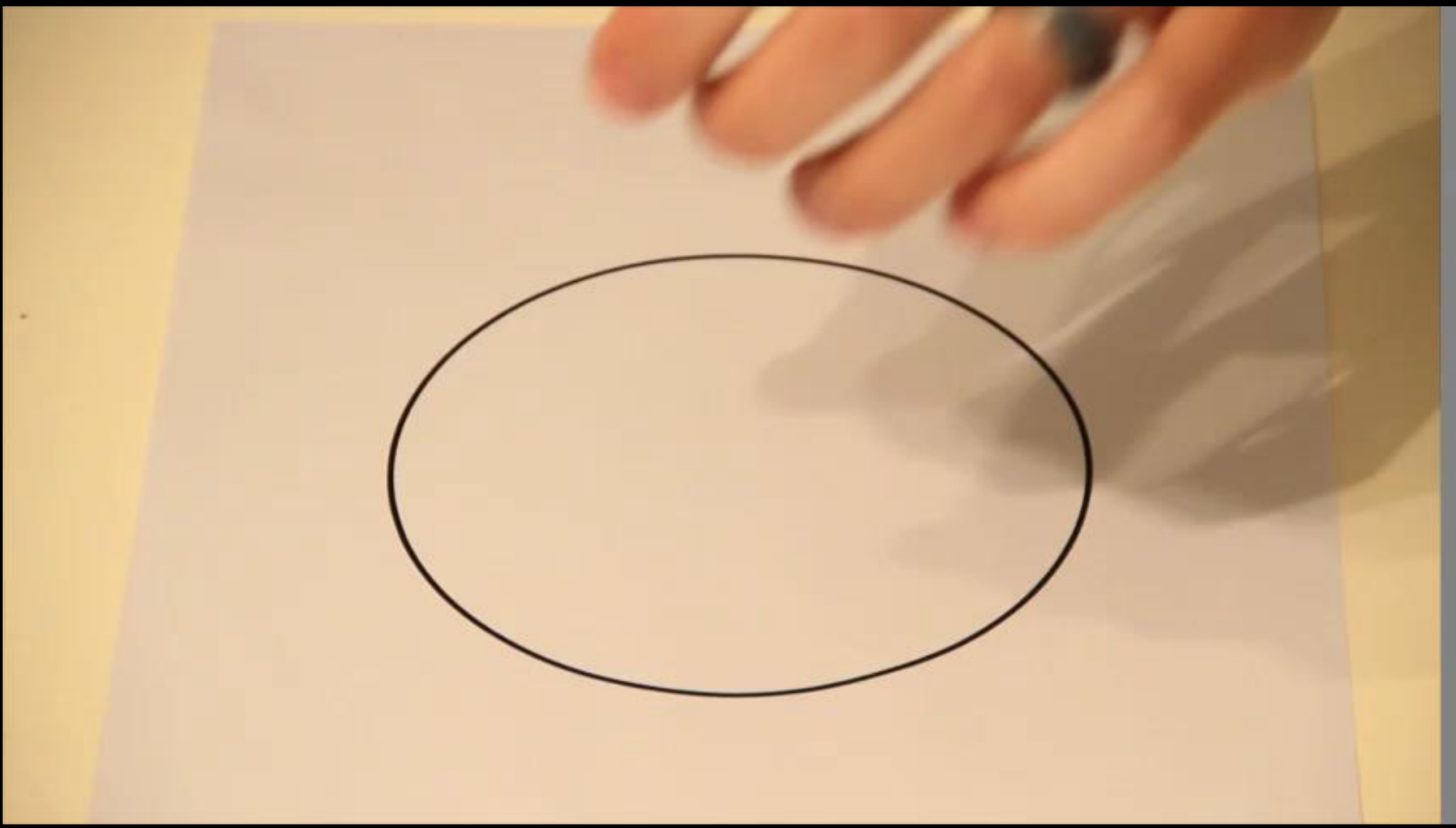
55-64	15,859	7,780	11,971
65+	10,304	4,735	7,646
Average	16,550	10,142	13,478



Setting Up The Problem

- What do you do when students ask for data/information I don't have, hadn't considered, or forgot to get?
- What do you do when students ask for information that is probably not important or that they don't actually need?
- What do you do when students don't know what to write for what they know and don't know?
- What do you do when you ask for a guess and they don’t know?
- What do you do when they don't ask you for information that they need to solve the problem?



Problem Solving Process

- What do you do when students don't use the strategy you anticipated they would use?


TICKET BOOTH
1 TICKET = $.50
12 TICKETS = $5.00
25 TICKETS = $10.00
50 TICKETS = $25.00
120 TICKETS = $50.00
HAVE FUN!

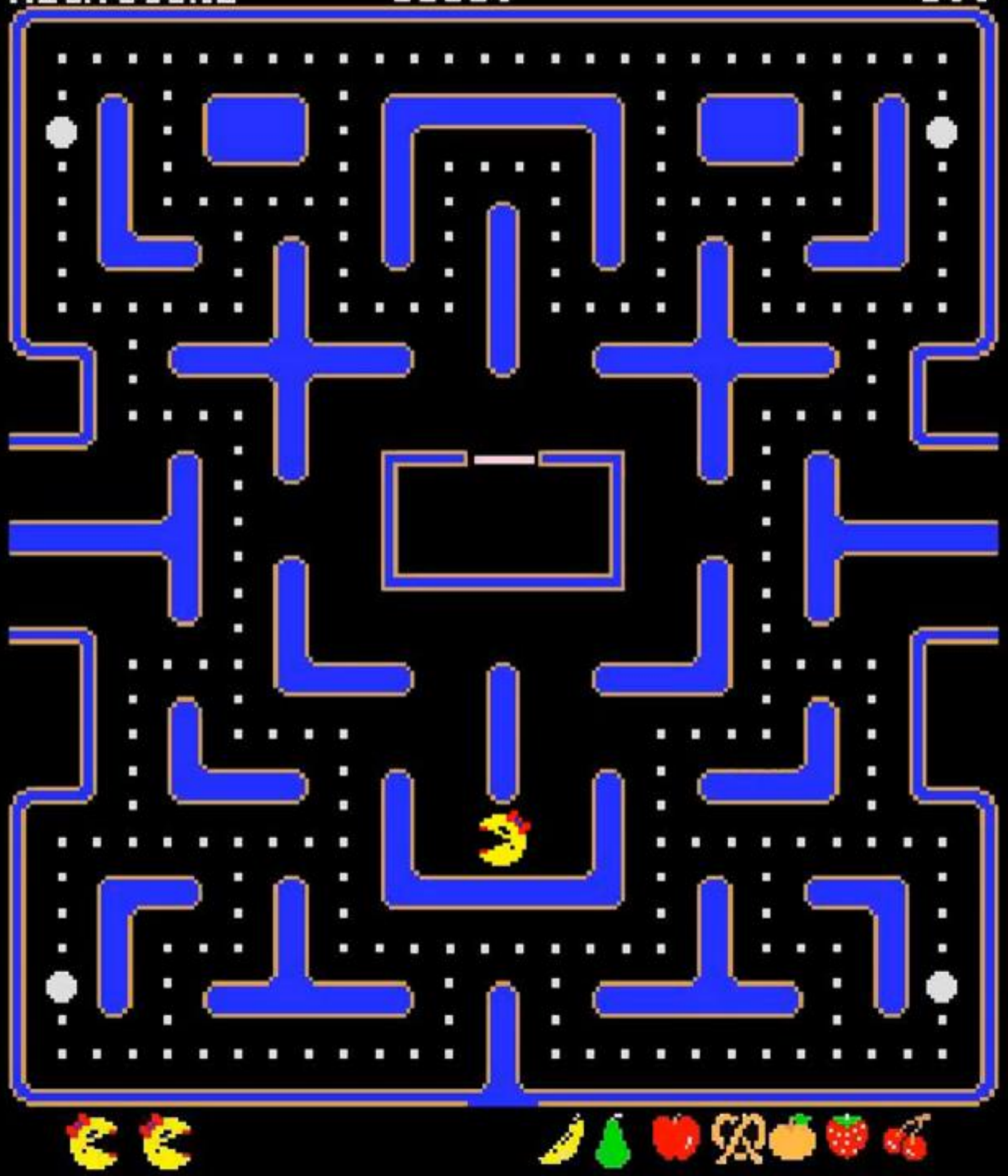

Dual Flush
Descarga Doble
1.0
gallon flush
for liquids
1.6
gallon flush
for solids
Dual Flush
1.0 gallon flush for liquids
1.6 gallon flush for solids
American Standard
Style That Works Better
American Standard
Item | Artículo: 84065
Model | Modelo: 3381.216.020
Clean™ Cadet® 3
Overall dimensions: 15 in W x 31 in H x 29-3/4 in D
Rough-in dimensions: 12 in
Trapway size: 2 in
Dimensiones generales: 38,10 cm de ancho x 78,74 cm de alto x 75,57 cm de profundidad
Dimensiones aproximadas: 30,48 cm
Tamaño de canal de sifón: 5,08 cm
• High-efficiency, dual flush toilet—1.6 gal. or 1.0 gal. flush
• Stays cleaner longer with EverClean® surface & PowerWash™ flush
• Features No Tools™ installation
• ADA approved chair height
• Inodoro de descarga doble de alta eficiencia con descarga de 6,06 litros o 3,79 litros
• Permanece limpio por más tiempo con la superficie EverClean® y la descarga PowerWash™
• Cuenta con instalación No Tools™
• Altura de silla aprobada por ADA
Elongated
Alargada
18.5 in
46,99 cm
Chair Height
Altura de silla
16.5 in
41,91 cm
10 Year Año
Limited Warranty
Garantía limitada
$199
Everyday Low Price
CLEAN CADET 3 DUAL FLUSH CH EL H
AISLE 40 W
BAY
LOC 1
Item # 84065
WaterSense
Meets EPA Criteria
Certified by IAPMO R&T
Reorder # P117364

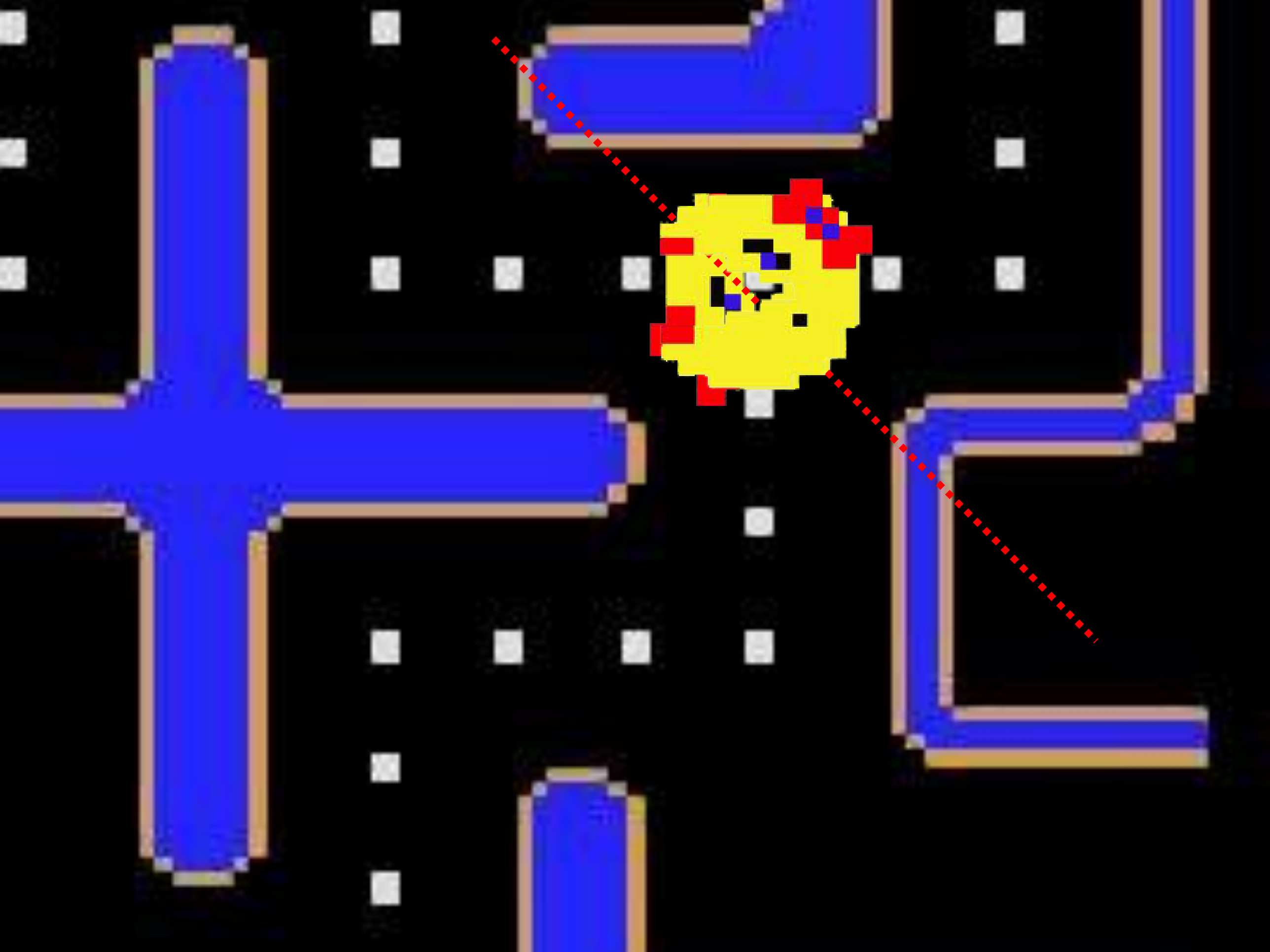

American Standard
Item | Artículo: 88575
Model | Modelo: 2514.101.020
Clean™ Cadet® 3
Overall dimensions: 15-3/4 in W x 30-3/4 in H x 30-1/4 in D
Rough-in dimensions: 12 in
Trapway size: 2-1/16 in
Dimensiones generales: 40,01 cm de ancho x 78,11 cm de alto x 76,84 cm de profundidad
Dimensiones aproximadas: 30,48 cm
Tamaño de canal de sifón: 5,24 cm
• Smooth-sided toilet design
• Stays cleaner longer with EverClean® surface & PowerWash™ flush
• Features No Tools™ installation
• ADA approved chair height
• Diseño de inodoro de lados lisos
• Permanece limpio por más tiempo con la superficie EverClean® y la descarga PowerWash™
• Cuenta con instalación No Tools™
• Altura de silla aprobada por ADA
Elongated
Alargada
18.5 in
46,99 cm
Chair Height
Altura de silla
16.5 in
41,91 cm
10 Year Año
Limited Warranty
Garantía limitada
$239
Everyday Low Price
ASD CLEAN CADET3 EL CH 1.28GPF
AISLE 40 W
BAY
LOC 5
Item # 88575
WaterSense
Meets EPA Criteria
Certified by IAPMO R&T
Reorder # P117363

Problem Solving Process

- What do you do when students don't use the strategy you anticipated they would use?
- What do you do when a student comes up with a strategy for solving the problem that I do not understand?

HIGH SCORE 36550 800






USA

Problem Solving Process

- What do you do when students don't use the strategy you anticipated they would use?
- What do you do when a student comes up with a strategy for solving the problem that I do not understand?
- What do you do when the answer we calculate does not match with the actual answer?
- What do you do when students get stuck during the problem solving process and are not sure what to do?

Problem Solving Process

- What do you do when students don't use the strategy you anticipated they would use?
- What do you do when a student comes up with a strategy for solving the problem that I do not understand?
- What do you do when the answer we calculate does not match with the actual answer?
- What do you do when students get stuck during the problem solving process and are not sure what to do?
- What do you do when you ask students questions and few to no people are ready to respond?

Problem Solving Process

- What do you do when students don't use the strategy you anticipated they would use?
- What do you do when a student comes up with a strategy for solving the problem that I do not understand?
- What do you do when the answer we calculate does not match with the actual answer?
- What do you do when students get stuck during the problem solving process and are not sure what to do?
- What do you do when you ask students questions and few to no people are ready to respond?
- What do you do when the student conclusions are low quality and/or effort?

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(1-800-462-3966)

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Present this coupon.

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Also excludes Dyson vacuums and Miele

Valid for in-store use only. Copies not accepted. Limit one coupon, Savings Certificate, special offer or discount (including price match) per item. Coupon must be surrendered at time of purchase; any return of purchase will reduce your savings proportionally. The discount cannot be applied to gift cards, shipping, or sales tax. Offer excludes the following: Alessi, Arthur Court, Breville®, Britto™ Collection, Brookstone®, DKNY, kate spade, Kenneth Cole Reaction Home, Kosta Boda, Le Creuset®, Lladró®, Monique Lhuillier, Nambe®, Nautica®, Orrefors, Riedel, Shun, Starbucks® Electrics, Swarovski, T-Tech, Vera Wang®, Victorinox Luggage, Vitamix, Waterford®, Wusthof®, or Zwilling; Argington®, babybrezza™, Baby Jogger™, BÉABA®, BOB, Bugaboo, Bumbleride™, ERGObaby®, Foundations®, iCandy®, Maxi-Cosi®, Mountain Buggy, Oeuf, Orbit Baby™, Peg Pérego®, Phil & Teds®, Plan Toys®, Quinny®, Svan®, Teutonia®, Under Armour®, UPPAbaby®, baby furniture, diapers, wipes, formula, baby food or portrait studio services.

G47QR-V2

BBC31313

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any purchase of $15 or more.
Present this coupon.

16150 81283 94566 13112
Also excludes Dyson vacuums and Miele

Valid for in-store use only. Copies not accepted. Limit one coupon, Savings Certificate, special offer or discount (including price match) per item. Coupon must be surrendered at time of purchase; any return of purchase will reduce your savings proportionally. The price of gift cards, shipping, or sales tax are not counted toward any minimum purchase required, and coupon cannot be applied to such items. Offer excludes the following: Alessi, Arthur Court, Breville®, Britto™ Collection, Brookstone®, DKNY, kate spade, Kenneth Cole Reaction Home, Kosta Boda, Le Creuset®, Lladró®, Monique Lhuillier, Nambe®, Nautica®, Orrefors, Riedel, Shun, Swarovski, T-Tech, Vera Wang®, Victorinox Luggage, Vitamix®, Waterford®, Wusthof®, or Zwilling; Baby Brezza®, Baby Jogger™, BÉABA®, BOB, Bugaboo, Bumbleride™, Destination Maternity®, ERGObaby®, Foundations®, Maxi-Cosi®, Mountain Buggy, Oeuf, Orbit Baby™, Peg Pérego®, Petunia Pickle Bottom®, Phil & Teds®, Quinny®, Svan®, Teutonia®, Under Armour®, UPPAbaby®, baby furniture, diapers, wipes, formula, baby food or portrait studio services.

Ver. 1

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

IA conclusion each conclusion Each Item is good for different Items

instore purchace, exclusions

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

If the Item is $15 use the $5 off because

15-5 = $10 and
15 - 20% = $12

If the Item is $47 it is better to use the 20% off coupon because

47 - 5 = $42
$5 off

47 - 20% = 37.60
20% off

42 vs 37.60

$5 off 20% off
18 vs 18.40

23 - 5 = 18

23 - 20% = 18.40

	Orange Chicken	5.25	
	Chicken Lo Mein	5.25	
	Cashew Nut Chicken	5.25	
🌶	Pungent Chicken	5.25	
	Sweet & Sour Chicken	5.25	
	Curry Chicken	5.25	
	Lemon Chicken	5.25	
	Vegetable Chicken	5.25	
	Mongolian Beef	5.25	
	Broccoli Beef	5.25	
🌶	Pungent Beef	5.25	
	Sweet & Sour Pork	5.25	

🌶	Eggplant with Garlic Sauce	5.25
🌶	Ma Po Tofu	5.25
🌶	Broccoli with Garlic Sauce	5.25
🌶	String Bean with Garlic Sauce	5.25
	Vegetable Delight	5.25
	Bamboo Fungus Tofu	5.25
	Shrimp with Asparagus	6.25
	Shrimp with Lobster Sauce	6.25
🌶	Fish Fillet with Szuchuan Sauce	6.25
🌶	Fish Fillet with Black Bean Sauce	6.25
	Crab meat with Asparagus	6.25
	Sweet & Sour Shrimp	6.25

FREE ORANGE CHICKEN
WITH COUPON
with purchase from $50+tax/up
Not redeemable on lunch & special dinners & party items or with any other coupon
exp. 3/31/07

FREE CHICKEN LO MEIN
WITH COUPON
with purchase from $25+tax/up
Not redeemable on lunch & special dinners & party items or with any other coupon
exp. 3/31/07

FREE Cheese Wonton
WITH COUPON
with purchase from $25+tax/up
Not redeemable on lunch & special dinners & party items or with any other coupon
exp. 3/31/07

10% OFF
WITH COUPON
with purchase from $20+tax/up
Not redeemable on lunch & special dinners & party items or with any other coupon
exp. 3/31/07

10% OFF
WITH COUPON
with purchase from $20+tax/up
Not redeemable on lunch & special dinners & party items or with any other coupon
exp. 3/31/07

Free ~~10~~ chicken lomein if spended $25 and not redeemable on lunch, special dinners and Party Items

and chicken to main.

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

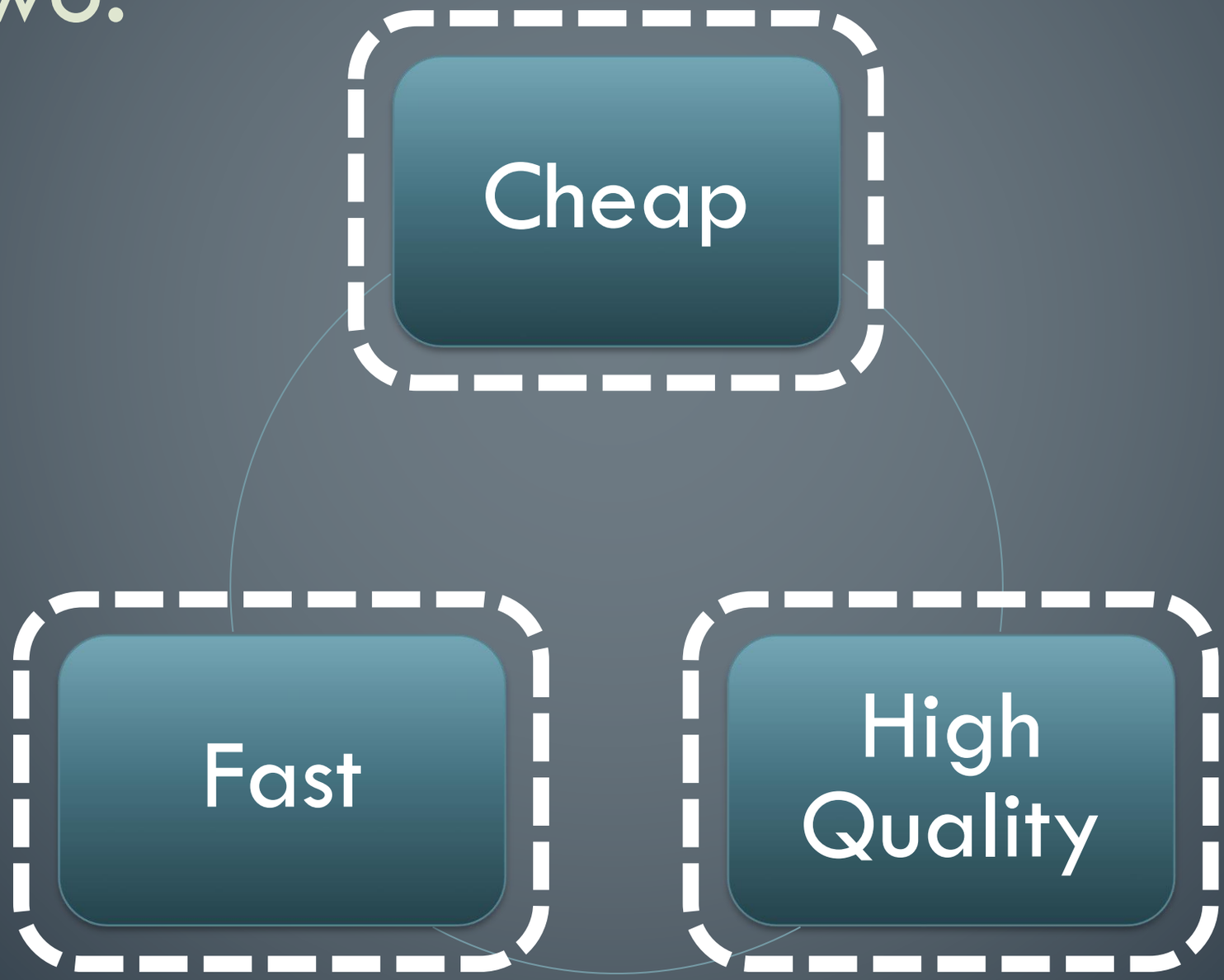
The 10% coupon is best with high Prices and small orders is best with the free chicken lomein or chesse wonton

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

You can use the 10% off when you pay 20-24.99 or more the Free chicken LoMein when you pay 25-49.99 or more and the Free orange Chiken when you pay 50 or more

Construction

- Pick two:

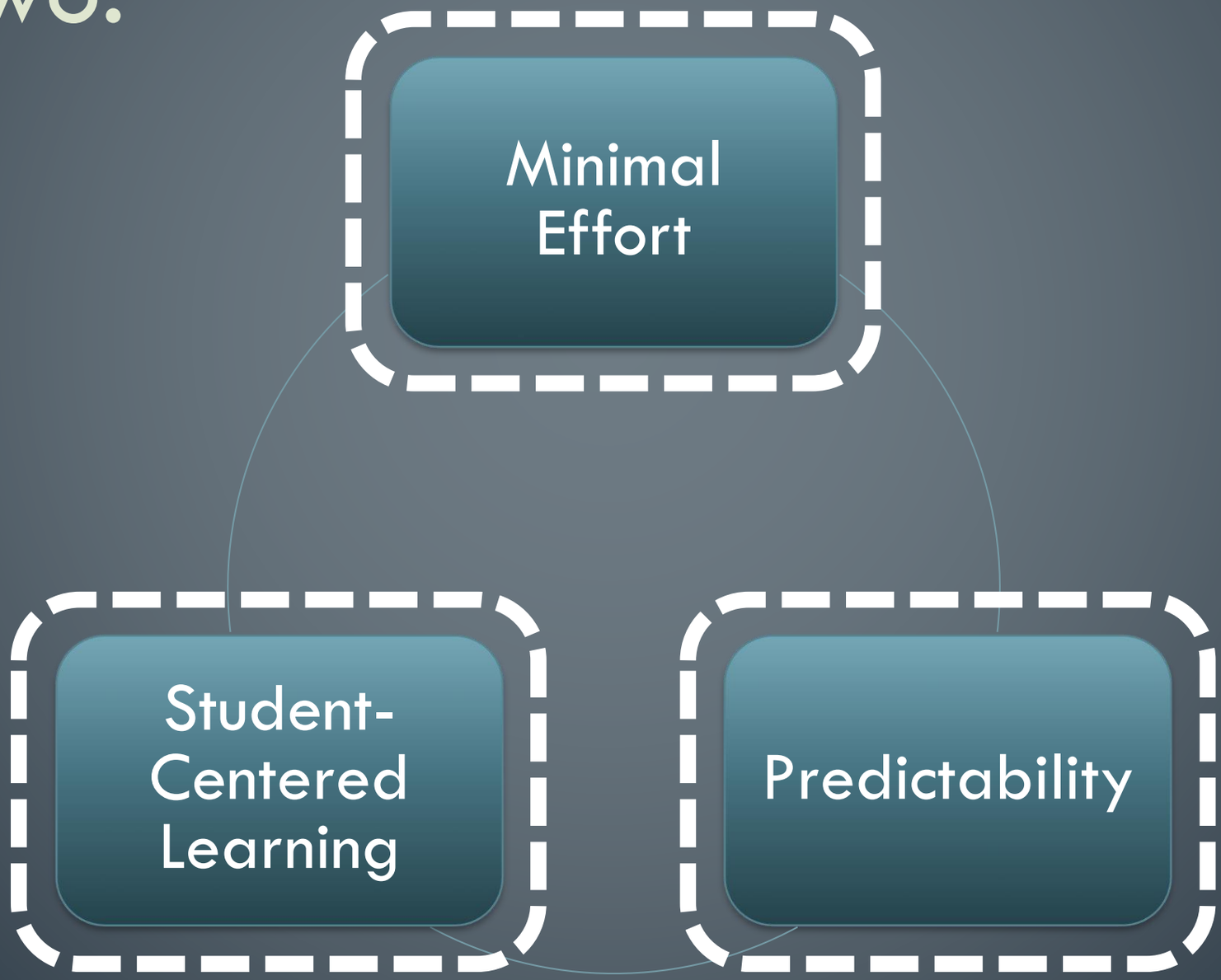


Family

- Pick two:

Problem-Based Learning

- Pick two:



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Tustin USD

ROBERT KAPLINSKY

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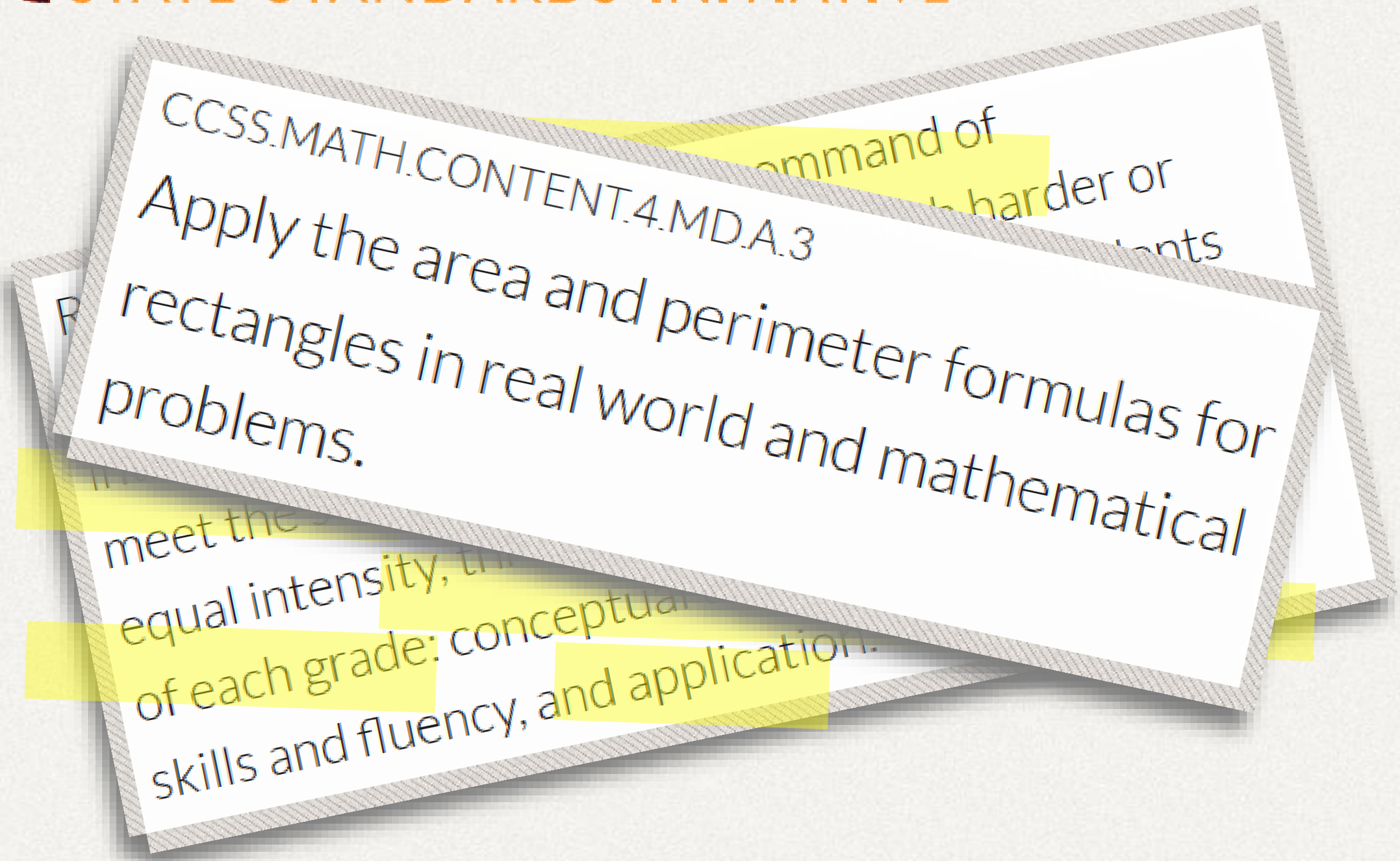
COMMON CORE
STATE STANDARDS INITIATIVE



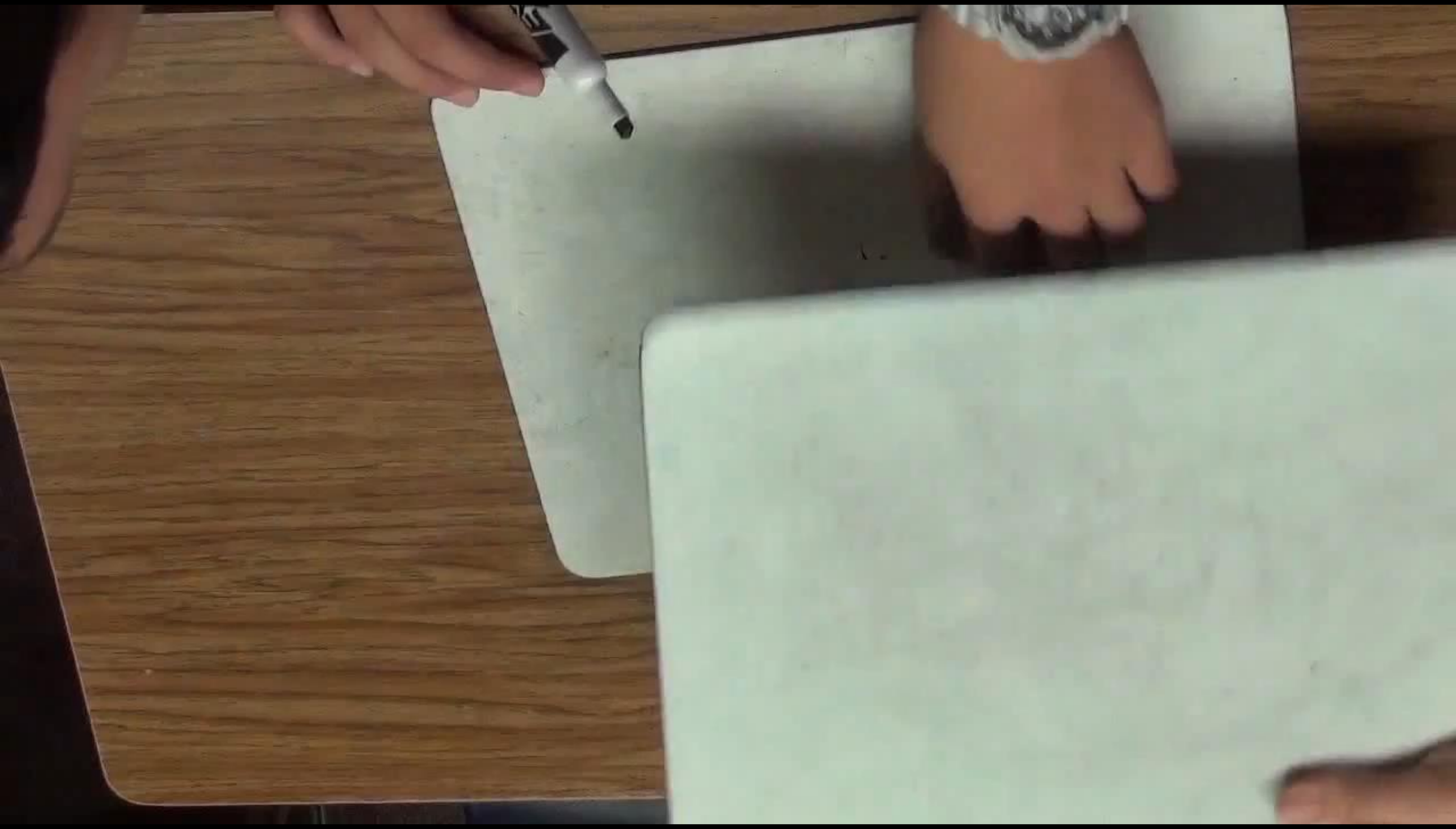
Source: http://www.corestandards.org/other-resources/key-shifts-in-mathematics/

What is the perimeter of a rectangle that measures 8 units by 4 units?

Components of Rigor

- ☑ Procedural Skill and Fluency
- ☑ Conceptual Understanding

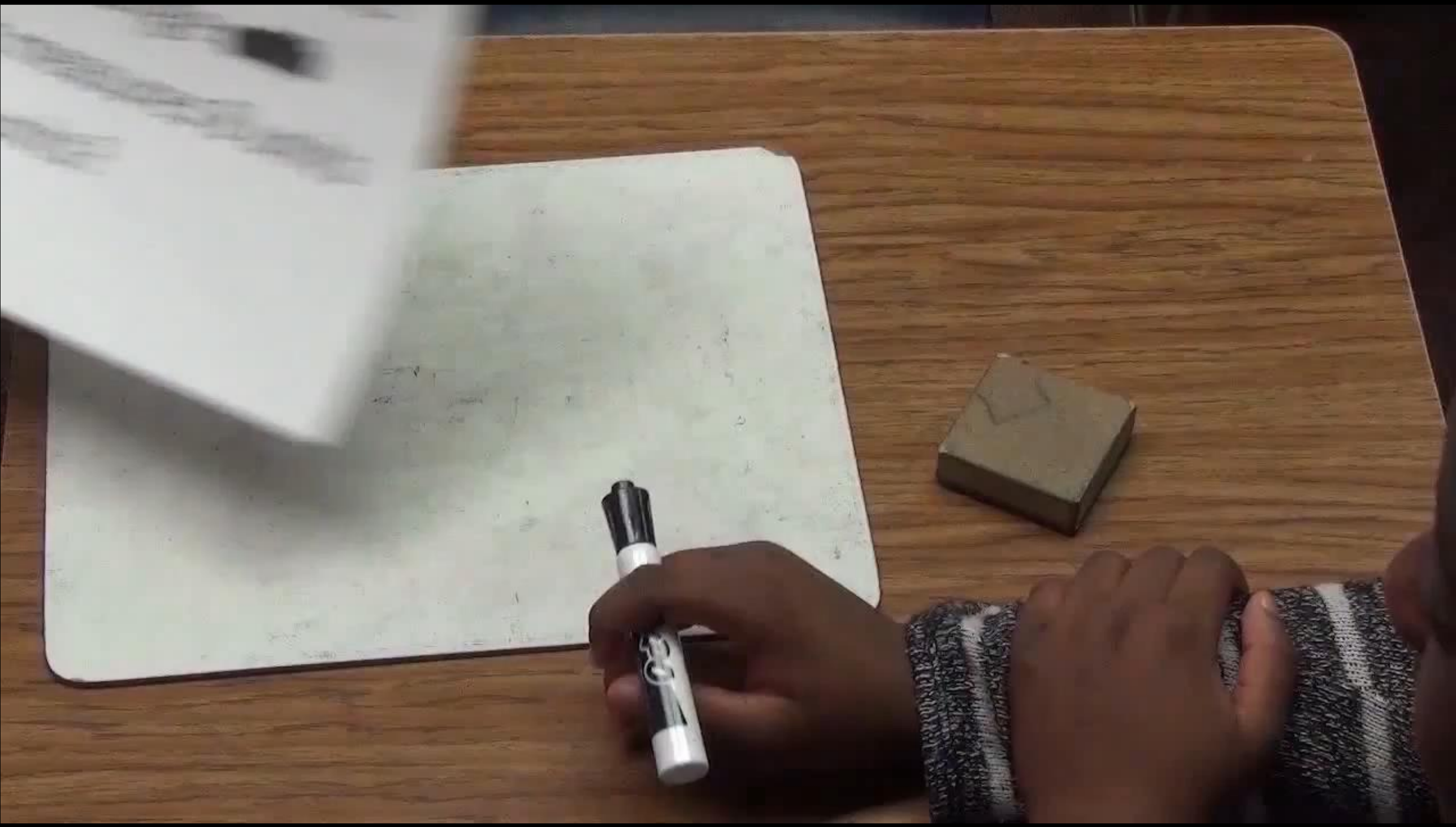
List the dimensions of a rectangle with a perimeter of 24 units.



Components of Rigor

- ☒ Procedural Skill and Fluency
- ☒ Conceptual Understanding

WHY?



Components of Rigor

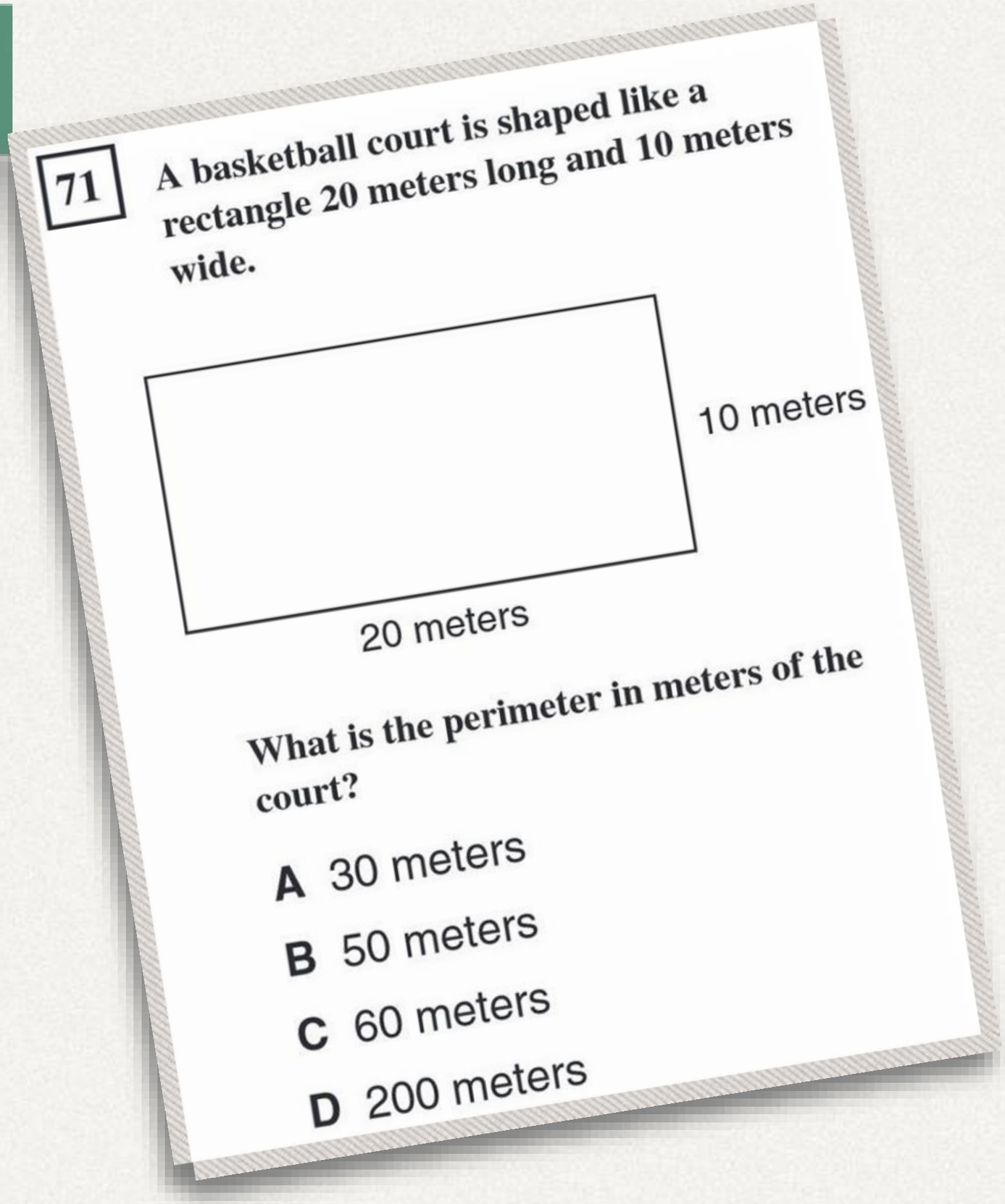
- ☑ Procedural Skill and Fluency
- ☑ Conceptual Understanding

List the

of a rectangle with a perimeter of 24 units.

Components of Rigor

- ☒ Procedural Skill and Fluency
- ☒ Conceptual Understanding


71 A basketball court is shaped like a rectangle 20 meters long and 10 meters wide.

10 meters

20 meters

What is the perimeter in meters of the court?

A 30 meters

B 50 meters

C 60 meters

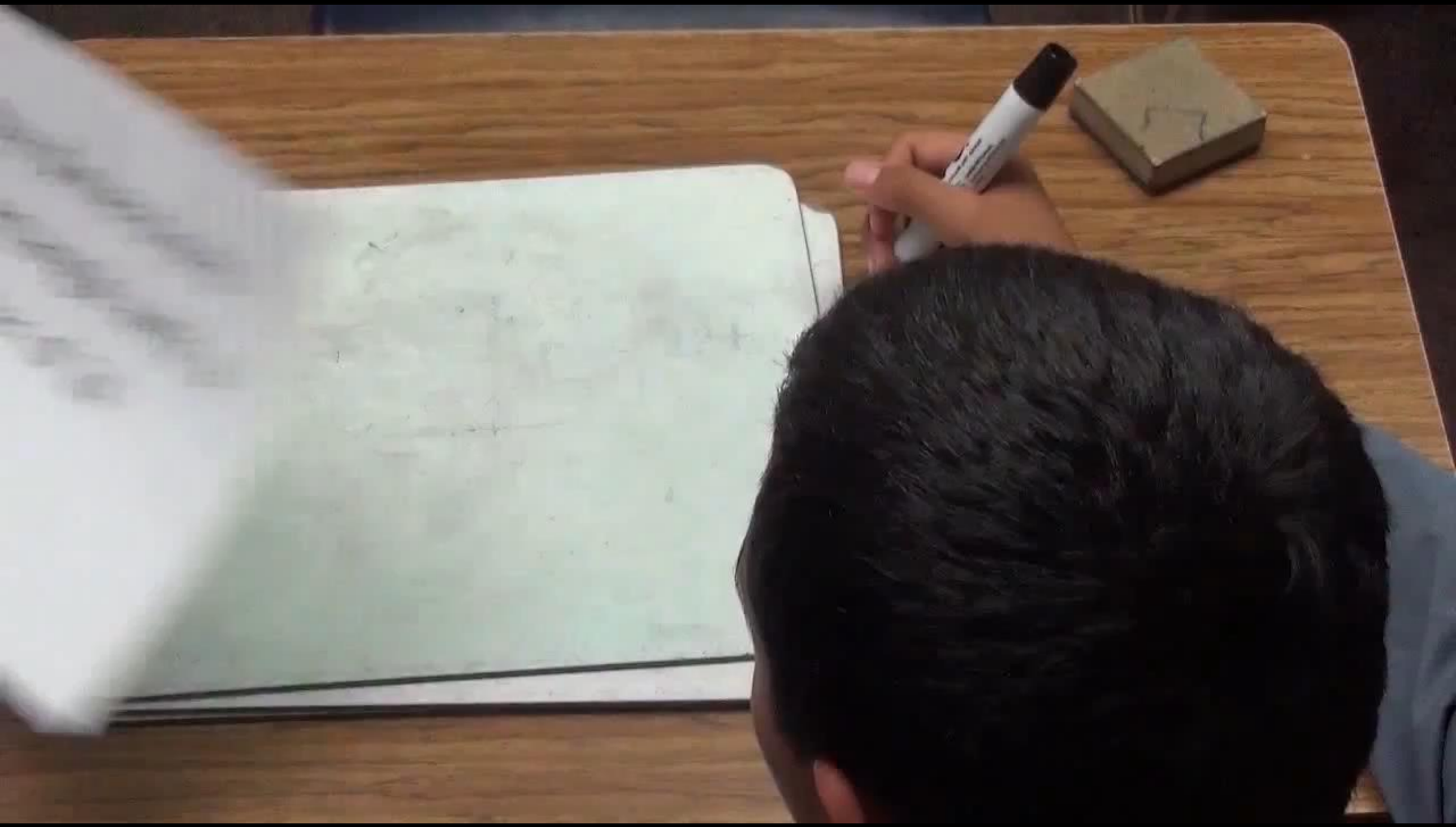
D 200 meters

Source: http://www.cde.ca.gov/ta/tg/sr/documents/cstrtqmath3.pdf

What is the perimeter of a rectangle [redacted] that measures 8 units by 4 units?

Components of Rigor

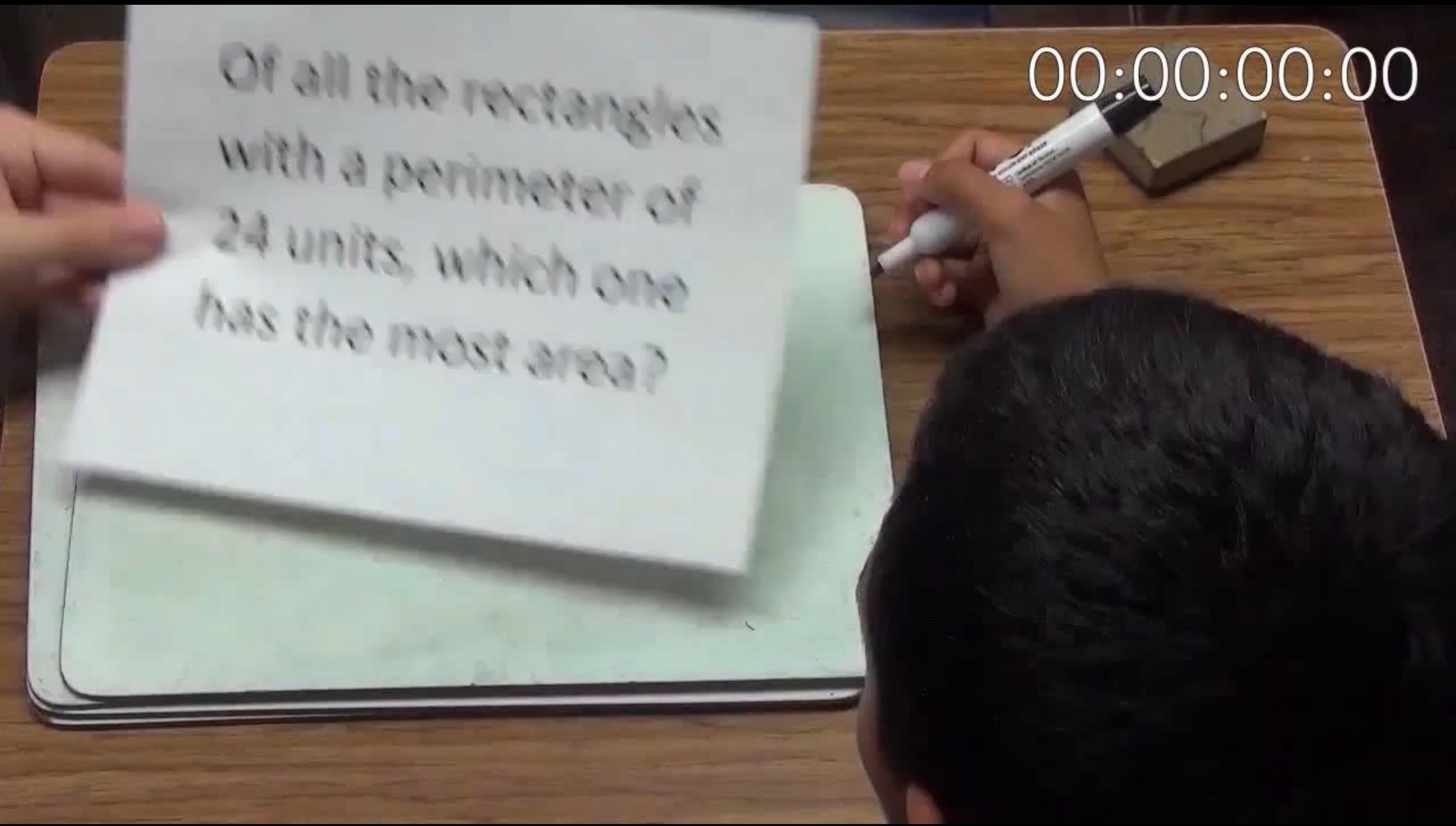
- ☑ Procedural Skill and Fluency
- ☑ Conceptual Understanding



Components of Rigor

- ☑ Procedural Skill and Fluency
- ☑ Conceptual Understanding

Of all the rectangles with a perimeter of 24 units, which one has the most area?


Of all the rectangles with a perimeter of 24 units, which one has the most area?
00:00:00:00

Components of Rigor

- ☒ Procedural Skill and Fluency
- ☒ Conceptual Understanding

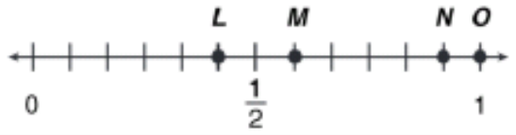
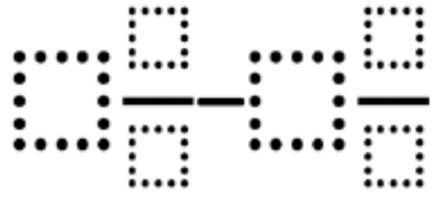
Defining the Problem

- Students appear to demonstrate "deep, authentic command of mathematical concepts" when given commonly used problems.
- However with more challenging problems, the same students seem to no longer demonstrate that command.

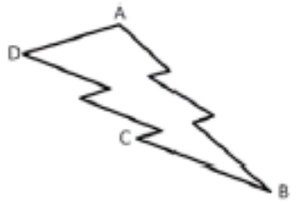
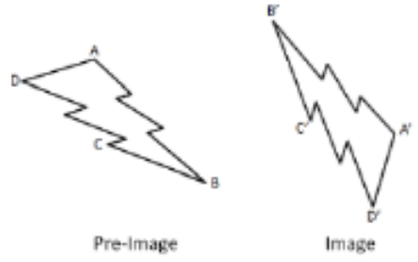
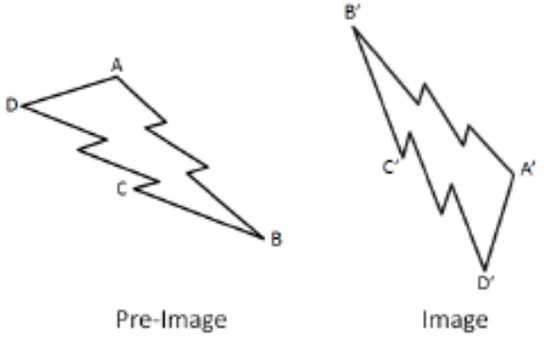
Addressing the Problem

- First, we must have a clear understanding about why these problems are different from one another.
- Next, we need to practice implementing these problems such that all students are engaged in a problem that is at the right challenge level for them.
- Last, we need a source that can provide us with a variety of free problems.

DOK | Distinguishing Between Depth of Knowledge Levels in Mathematics

Topic	Adding Whole Numbers	Money	Fractions on a Number Line	Area and Perimeter	Subtracting Mixed Numbers
CCSS Standard(s)	• 1.NBT.4 • 2.NBT.5	• 2.MD.8	• 3.NF.2	• 3.MD.8 • 4.MD.3	• 5.NF.1
DOK 1 Example	Find the sum. $44 + 27 =$	If you have 2 dimes and 3 pennies, how many cents do you have	Which point is located at $\frac{7}{12}$ below? 	Find the perimeter of a rectangle that measures 4 units by 8 units.	Find the difference. $5\frac{1}{2} - 4\frac{2}{3} =$
DOK 2 Example	Fill in the boxes below using the whole numbers 1 through 9, no more than one time each, so that you make a true equation. $\square\square + 53 = \square\square$	Make 47¢ in three different ways with either quarters, dimes, nickels, or pennies.	Label the point where $\frac{3}{4}$ belongs on the number line below. Be as precise as possible. 	List the measurements of three different rectangles that each has a perimeter of 20 units.	Create three different mixed numbers that will make the equation true by using the whole numbers 1 through 9, no more than one time each,. You may reuse the same whole numbers for each of the three mixed numbers. $5\frac{4}{5} - \square\frac{\square}{\square} = 3\frac{1}{20}$
DOK 3 Example	Make the largest sum by filling in the boxes below using the whole numbers 1 through 9, no more than one time each. $\square\square + \square\square =$	Make 47¢ using exactly 5 coins with either quarters, dimes, nickels, or pennies.	Create 5 fractions using the whole numbers 0 through 9, no more than one time each, as numerators and denominators and correctly place them all on a number line.	What is the greatest area you can make with a rectangle that has a perimeter of 24 units?	Make the smallest difference by filling in the boxes below using the whole numbers 1 through 9, no more than one time each. 

DOK | Distinguishing Between Depth of Knowledge Levels in Mathematics

Topic	Surface Area and Volume	Probability	Transformations	Factoring Quadratics	Quadratics in Vertex Form
CCSS Standard(s)	• 6.G.4 • 7.G.6	• 7.SP.5 • 7.SP.7	• 8.G.1 • G-CO.5	• A-SSE.3a	• F-IF.7a
DOK 1 Example	Find the surface area of a rectangular prism that measures 3 units by 4 units by 5 units.	What is the probability of rolling a sum of 5 using two 6-sided dice?	Rotate the image below 90° counterclockwise and reflect it across a horizontal line. 	Find the factors: $2x^2 + 7x + 3$	Find the roots and maximum of the quadratic equation below. $y = 3(x-4)^2 - 3$
DOK 2 Example	List the measurements of three different rectangular prisms that each has a surface area of 20 square units.	What value(s) have a 1/12 probability of being rolled as the sum of two 6-sided dice?	List three sequences of transformations that take pre-image ABCD to image A'B'C'D'. 	Fill in the blank with integers so that the quadratic expression is factorable. $x^2 + \_\_x + 4$	Create three equations for quadratics in vertex form that have roots at 3 and 5 but have different maximum and/or minimum values.
DOK 3 Example	What is the greatest volume you can make with a rectangular prism that has a surface area of 20 square units?	Fill in the blanks to complete this sentence using the whole numbers 1 through 9, no more than one time each. Rolling a sum of ___ on two ___-sided dice is the same probability as rolling a sum of ___ on two ___-sided dice.	What is the fewest number of transformations needed to take pre-image ABCD to image A'B'C'D'? 	Fill the blank by finding the largest and smallest integers that will make the quadratic expression factorable. $2x^2 + 3x + \_\_$	Create a quadratic equation with the largest maximum value using the whole numbers 1 through 9, no more than one time each. $y = -\square(x-\square)^2 + \square$

DOK Level Differences

- **Level 1: Recall & Reproduction**
  - Often a trivial application of facts.
  - Requires little to no cognitive effort beyond remembering the right formula.
  - Usually only one answer.
- **Level 2: Skills & Concepts**
  - Usually requires more than one step to solve.
  - Often multiple answers.
- **Level 3: Strategic Thinking**
  - Usually requires critical thinking about the best way to approach a problem.
  - May be multiple answers or a single optimal answer.
  - Often challenging enough to make your head hurt.
- **Level 4: Extended Thinking**
  - In mathematics these are generally represented by performance tasks or problem-based lessons.

Probability

What is the probability of rolling a sum of 5 using two 6-sided dice?

Probability

What value(s) have a $\frac{1}{12}$ probability of being rolled as the sum of two 6-sided dice?

Author: Daniel Luevanos

Probability

Fill in the blanks to complete this sentence using the whole numbers 1 through 9, no more than one time each.

Rolling a sum of ___ on two ___-sided dice is the same probability as rolling a sum of ___ on two ___-sided dice.

Authors: Audrey Mendivil, Daniel Luevanos, and Robert Kaplinsky

DOK FAQ

- *What DOK level should I start students off with?*
- *How do teachers fit these problems into their pacing?*
- *How do I help prevent students from giving up after trying the problem once or twice?*
- *Where can I find other DOK 2 and DOK 3 problems?*
- *How can I share DOK 2 and DOK 3 problems I've made?*

Open Middle

Challenging math problems worth solving

NEW OPEN M

Exponents a[illegible] Operations

February 10, 2015 Leave

Directions: Find 3 positive i[illegible]t add up to 10. Place each number into one of the blanks to find the largest possible result. Source: Zack[illegible]ller (@zmill415) **Read More »**

Create Squares

February 10, 2015 2 Comments

Directions: Create a square with one of the vertices at (2,3). Fill in the blanks with whole numbers 0 through 9, using each number at most once, to show the rest of the vertices of the square. Bonus: Find more than one set of vertices. Source: John Mahlstedt (@jdmahlstedt) **Read More »**

Solution of Two Linear Equations

February 10, 2015 Leave a comment

Directions: Using the Integers 0-9 (without duplication), provide four sets of points that represent two distinct lines. These lines can be written as two linear equations. Then provide a fifth point that represents the intersection (or solution) of those equations. Line 1: (__, __) and (__, __) Line 2: (__, __) and (__, __) Solution (__, __) Source: Bryan Anderson **Read More »**

Bingo card

February 5, 2015 1 Comment

Directions: In a standard game of BINGO, the cards are labeled with numbers 1 through 75. If it was possible, which card would you choose: a card with all of the same number or a standard bingo card? Source: Nanette

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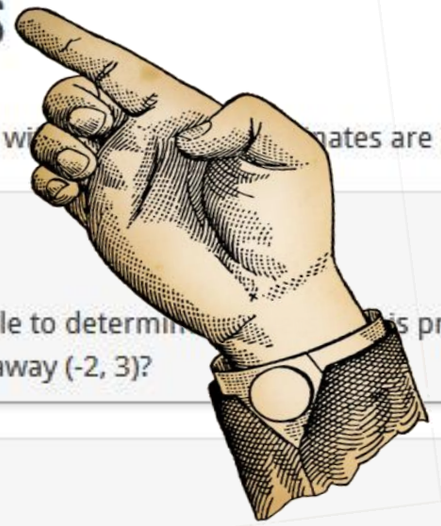
COMMON CORE STATE STANDARDS

- Grade 1 (6)
  - Number & Operations in Base Ten (3)
  - Operations & Algebraic Thinking (3)
- Grade 2 (6)
  - Measurement & Data (2)
  - Number & Operations in Base Ten (4)
- Grade 3 (11)
  - Measurement & Data (6)
  - Number & Operations in Base Ten (3)
  - Number & Operations—Fractions (2)

Open Middle

Challenging math problems worth solving

EQUIDISTANT POINTS



Directions: How many points wi nates are 5 units away from (-2, 3)?

Hint

Which methods are available to determi is problem? What shape is defined by *all* of the points that are 5 units away (-2, 3)?

Answer

12 points: (-5, 7), (-7, 3), (-5, -1), (-2, -2), (3, 3), (1, -1), (-2, 8), (1, 7), (2,6), (-6, -6), (-6, 0), and (2, 0)

Source: Dylan Kane

Print

Tagged with: 8.G.8 | DOK 2: SKILL / CONCEPT | DYLAN KANE | G-GPE.1

« Previous: Cone and Cylinder Volumes

Next: Pythagorean Shell »

LEAVE A REPLY

COMMON CORE STATE STANDARDS

- Grade 1 (6)
  - Number & Operations in Base Ten (3)
  - Operations & Algebraic Thinking (3)
- Grade 2 (6)
  - Measurement & Data (2)
  - Number & Operations in Base Ten (4)
- Grade 3 (11)
  - Measurement & Data (6)
  - Number & Operations in Base Ten (3)
  - Number & Operations—Fractions (2)

COMMON CORE
STATE STANDARDS INITIATIVE

Rigor refers to deep, authentic command of mathematical concepts, not making math harder or introducing topics at earlier grades. To help students meet the standards, educators will need to pursue, with equal intensity, three aspects of rigor in the major work of each grade: conceptual understanding, procedural skills and fluency, and application.

Source: http://www.corestandards.org/other-resources/key-shifts-in-mathematics/

Problem-Based Lesson Resources

- Problem-based lesson search engine:

  http://robertkaplinsky.com/prbl-search-engine/

- My lessons: http://www.robertkaplinsky.com/lessons
- Graham Fletcher: http://gfletchy.com/3-act-lessons/
- Dan Meyer: http://threeacts.mrmeyer.com
- Andrew Stadel: http://tinyurl.com/mrstadel
- Geoff Krall: http://tinyurl.com/PrBLmaps

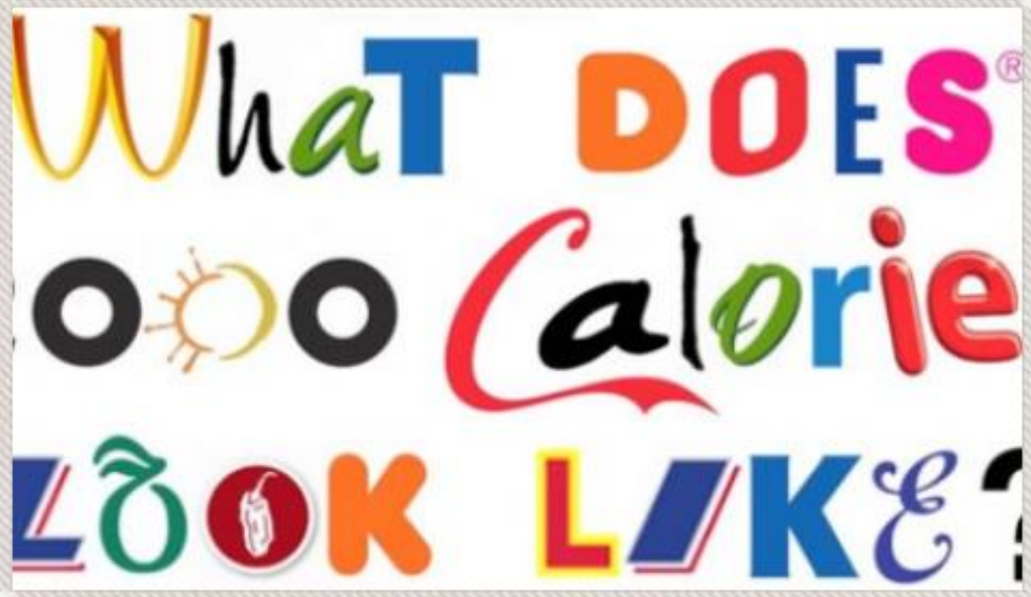
Why Choose Us?

1 Math content expert

Robert graduated from University of California, Los Angeles (UCLA) with a Bachelors of Science in Mathematics. He has taught mathematics to students at the elementary, middle, and high school levels. As

Lessons

How Many Hot Dogs And Buns Should He Buy?



What Does 2000 Calories Look Like?

Robert Kaplinsky's Problem-Based Lessons

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	A	B	C	D	E	F
1	Task Name	Concept / Skill	Standard 1	Standard 2	Standard 3	Standard 4
2	How Can We Water All Of The Grass?	Circles, Pythagorean Theorem, trigonometric ratios	7.G.4	8.G.7	G-SRT.8	G-MG.1
3	How Much Money IS That?!	Volume of rectangular prism	5.MD.3	5.MD.4	5.MD.5	5.MD.5b
4	How Much Money Should Dr. Evil Demand?	Exponential Growth	N-RN.2	A-SSE.1	A-SSE.3c	A-SSE.4
5	How Tall Is Mini-Me?	Scale and Dividing Decimals	5.NF.5	5.NF.5a	5.NF.5b	6.NS.3
6	How Did They Make Ms. Pac-Man?	Transformations (Rotations, Reflections, and Translations)	8.G.1	8.G.2	8.G.3	8.G.4
7	Which Ticket Option Is The Best Deal?	Unit Rates and Ratios	6.RP.2	6.RP.3	6.RP.3a	6.RP.3b
8	How Far Apart Are The Freeway Exits?	Fractions on a Number Line and Subtracting Fractions	3.NF.2	3.NF.2b	4.NF.2	4.NF.3a
9	Do We Have Enough Paint?	Area	3.MD.5	3.MD.6	3.MD.7	
10	How Many Stars Are There In The Universe?	Scientific Notation	8.EE.3	8.EE.4		
11	What Rides Can You Go On?	Inequalities and Measurement	2.MD.1	6.NS.7a	6.NS.7b	
12	Do You Have Enough Money?	Money	2.MD.8			
13	Which Bed Bath & Beyond Coupon Should You Use?	Percent Discount	7.RP.3			
14	Is Gas Cheaper With Cash Or Credit Card?	Percent Discount	7.RP.3			
15	Where's The Nearest Toys R Us?	Pythagorean Theorem (Distance in coordinate system)	8.G.8	G-SRT.8	G-GPE.7	
16	How Sharp Is The iPhone 5's Retina Display?	Pythagorean Theorem (Length of a side)	8.G.7	G-SRT.8	G-GPE.7	
17	When Should She Take Her Medicine?	Operations with Time Intervals	4.MD.2			
18	How Big Are Sunspots?	Converting Units, Proportions, and Scientific Notation	5.MD.1	7.RP.2	7.G.4	8.EE.4
19	What Michael's Coupon Should I Use?	Percent Discount	7.RP.3	A-CED.3		
20	Is It Cheaper To Pay Monthly or Annually?	Decimal Operations and/or Systems of Equations	5.NBT.7	8.EE.8c	A-CED.3	A-REI.11
21	How Big Is The 2010 Guatemalan Sinkhole?	Volume of Cylinder	5.MD.3	5.MD.4	5.MD.5	8.G.9
22	How Can You Win Every Prize At Chuck E. Cheese's?	Decomposing Numbers and/or Systems of Equations	2.NBT.7	3.NBT.2	3.NBT.3	8.EE.8c
23	How Many Royal Flushes Will You Get?	Probability	7.SP.5	7.SP.6	7.SP.7	S-MD.5
24	How Much Does The Paint On A Space Shuttle Weigh?	Surface Area	6.G.4	7.G.6	8.G.7	G-MG.1
25	How Did Motel 6 Go From $6 to $66?	Percent Increase and Compound Interest	7.RP.3	A-SSE.1b	F-BF.1	F-IF.8b
26	How Much Does The Aluminum Foil Prank Cost?	Surface Area and Unit Rates	6.G.4	6.RP.2	6.RP.3	7.G.6
27	How Many Laps Is A 5k Race?	Perimeter	4.MD.3			
28	Which Toilet Uses Less Water?	Systems of Equations/Inequalities	8.EE.8c	A-CED.3	A-REI.11	F-BF.1
29	How Did Someone Get A $103,000 Speeding Ticket In Finland?	Linear Equations	A-CED.2	F-BF.1	F-IF.4	F-IF.6
30	Which Pizza Is A Better Deal?	Area or Circle, Square, and Unit Rates	3.MD.5	3.MD.6	3.MD.7	4.MD.3
31	How Big Is The World's Largest Deliverable Pizza?	Area of Square	3.MD.5	3.MD.6	3.MD.7	4.NBT.3
32	How Many Sheets Do You Need To Break Out Of Prison?	Integer Operations	5.NBT.6			
33	Do Hybrid Cars Pay For Themselves?	Systems of Equations or Rates	6.RP.2	6.RP.3	8.EE.8c	A-CED.3
34	How Many Hot Dogs Did They Eat?!	Linear and Quadratic Functions	8.F.3	8.F.4	F-BF.1	F-BF.2
35	How Much Purple Ribbon Will You Need?	Perimeter & Circumference	3.MD.8	4.MD.3	7.G.4	
36	Are We There Yet?	Adding Times	3.MD.1	4.MD.2		
37	Which Chinese Food Coupon Should I Use?	Percent Discount	7.RP.3			
38	How Big Is The Vehicle That Uses Those Tires?	Ratio and Proportions	7.RP.2			
39	Where Would The Angry Birds Have Landed?	Create Equation From Quadratic Graph	A-CED.1	F-BF.1	F-IF.4	F-IF.7a
40	How Many Movies Can You See In One Day?	Adding Times	3.MD.1	4.MD.2		
41	Which Carrots Should You Buy?	Unit Rates	6.RP.1	6.RP.2	6.RP.3	
42	How Fast Can You Throw A Baseball?	Converting Units and Unit Rates	5.MD.1	6.RP.2		

Problem-Based Lesson Search Engine

This search engine searches all of the sites below to quickly help you find a problem-based lesson (also called 3-Act Task, mathematical modeling, or application problem):

Submit

The links below are the pages that are being searched by the search engine:

- 101 Questions
- Andrew Stadel
- Dan Meyer
- Dane Ehlert
- Emergent Math's Problem Based Curriculum Maps
- Estimation180
- Geoff Krall

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Call to Action

- Commit to one of these choices:
  - Implement a problem-based lesson that is at or below grade level in your class(es) within the first two weeks.
  - Implement a single DOK 2 or DOK 3 problem from openmiddle.com in your class(es) within the first two weeks.

Contact

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tusd15