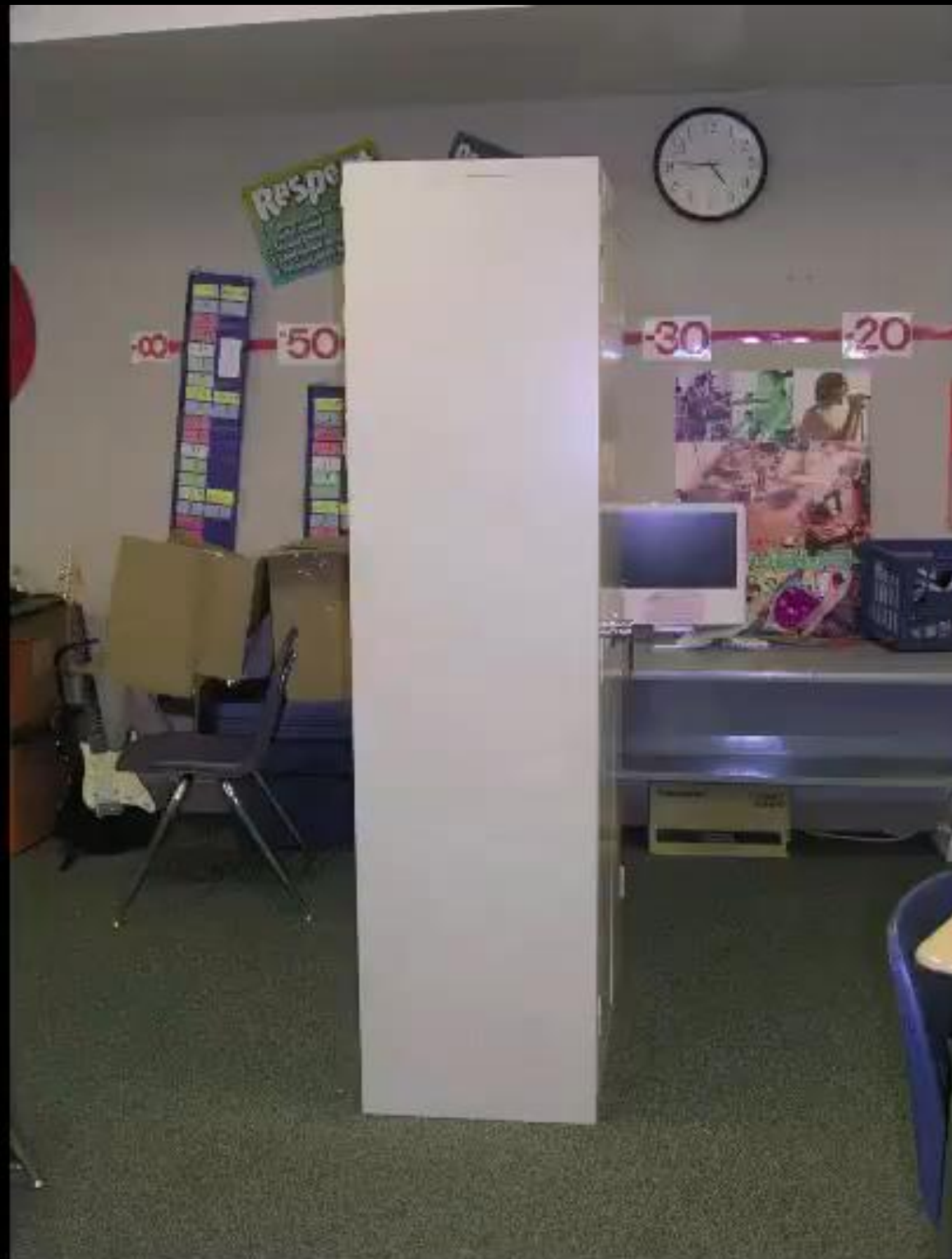


Francis Howell School District

ROBERT KAPLINSKY



@robertkaplinsky



Source: Andrew Stadel via www.estimated180.com



**Height:
72 inches**

Source: Andrew Stadel via www.estimated180.com



**Height:
72 inches**



**Width:
36 inches**





**Height:
72 inches**



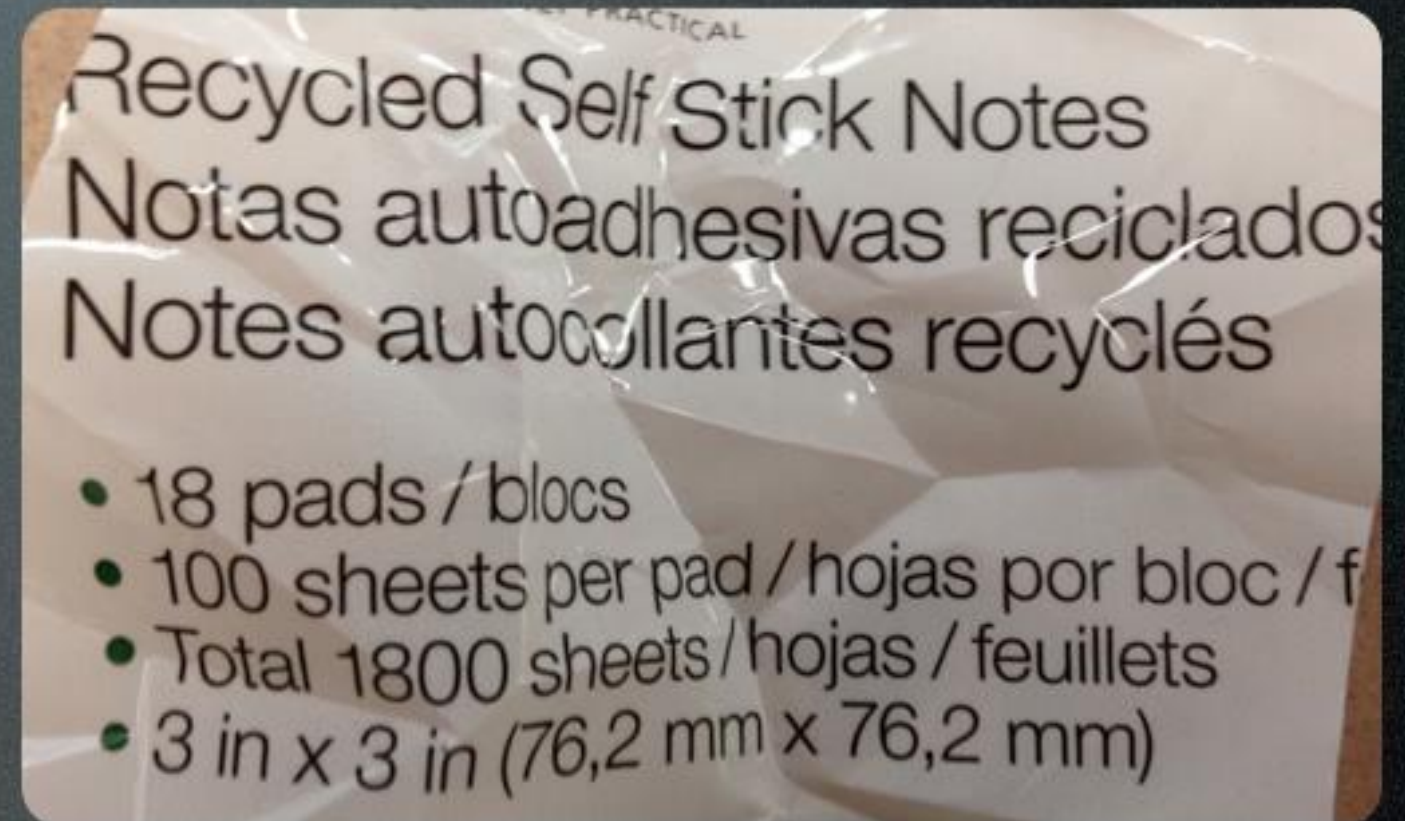
**Width:
36 inches**



**Depth:
18 inches**



Sticky note



**Dimensions:
3" x 3"**



Source: Andrew Stadel via www.estimated180.com

PERFORMANCE TASK

CEREAL BOXES

A cereal company uses cereal boxes that are rectangular prisms. The boxes have the dimensions shown.

- 12 inches high
- 8 inches wide
- 2 inches deep

The managers of the company want a new size for their cereal boxes. The new boxes have to be rectangular prisms. You will evaluate one box design the company proposed. Then you will create and propose your own design for the company.

Requirements for the new boxes:

- The new boxes have to use less cardboard than the

1

Determine the volume of the current cereal box with the dimensions 12 inches high, 8 inches wide, and 2 inches deep.

Find the volume, V , in cubic inches, of each box.

Volume of Original Box: $V = \underline{\hspace{1cm}} \text{ in}^3$

←

→

↶

↷

✖

1	2	3
4	5	6
7	8	9
0	.	-

2

Label the dimensions of the net for the current cereal box with dimensions 12 inches high, 8 inches wide, and 2 inches deep.

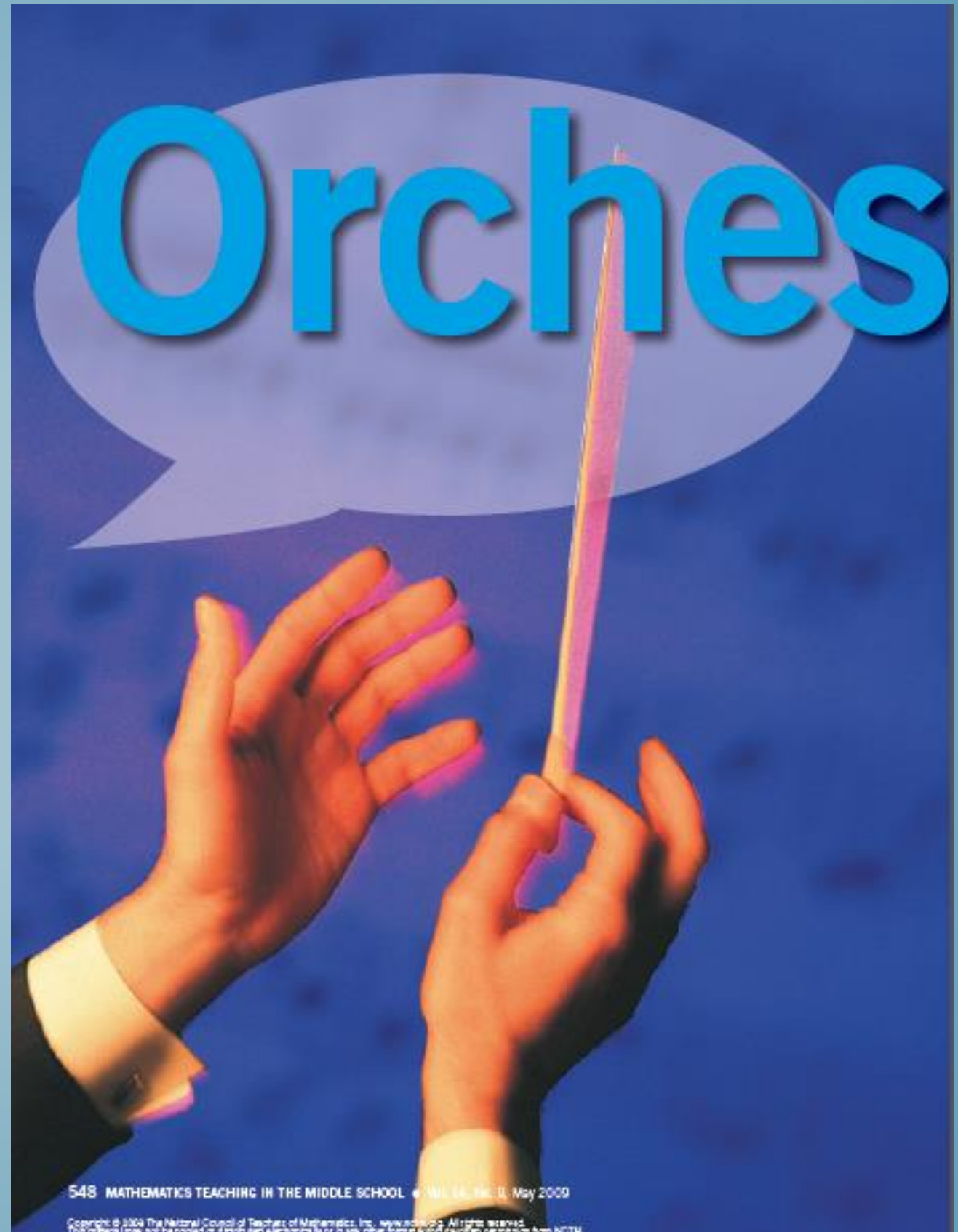
12 in

✖

Delete

✖

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.



struggle: none
feedback: none
reward: none



struggle: low
feedback: low
reward: high



struggle: medium
feedback: high
reward: medium



struggle: high
feedback: high
reward: high



Goals

- ☒ Engaging problem solving
 - ☒ Real world problem-based learning
 - ☒ Higher depth of knowledge problems
- ☐ Better implementation
 - ☒ Improve our ability to ask questions
 - ☒ Practice preparing to implement a lesson
 - ☐ Figure out how to deal with uncomfortable situations



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

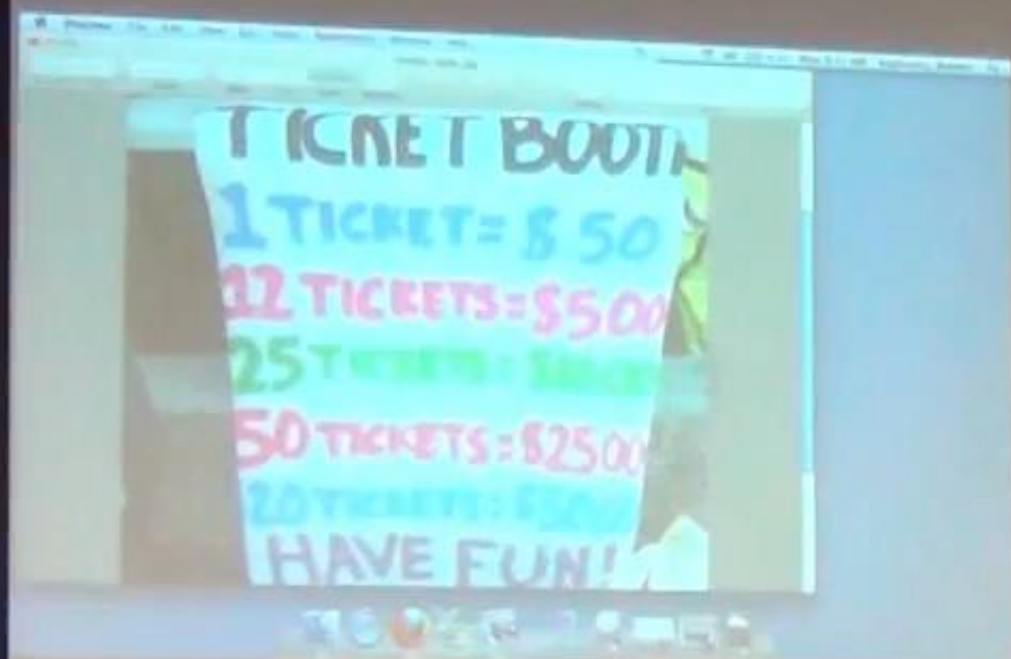
25 TICKETS = \$10.00

50 TICKETS = \$25.00

120 TICKETS = \$50.00

HAVE FUN!





PLACE VALUE SYSTEM											
Billions			Millions			Thousands			Units		
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰	10 ⁻¹	10 ⁻²

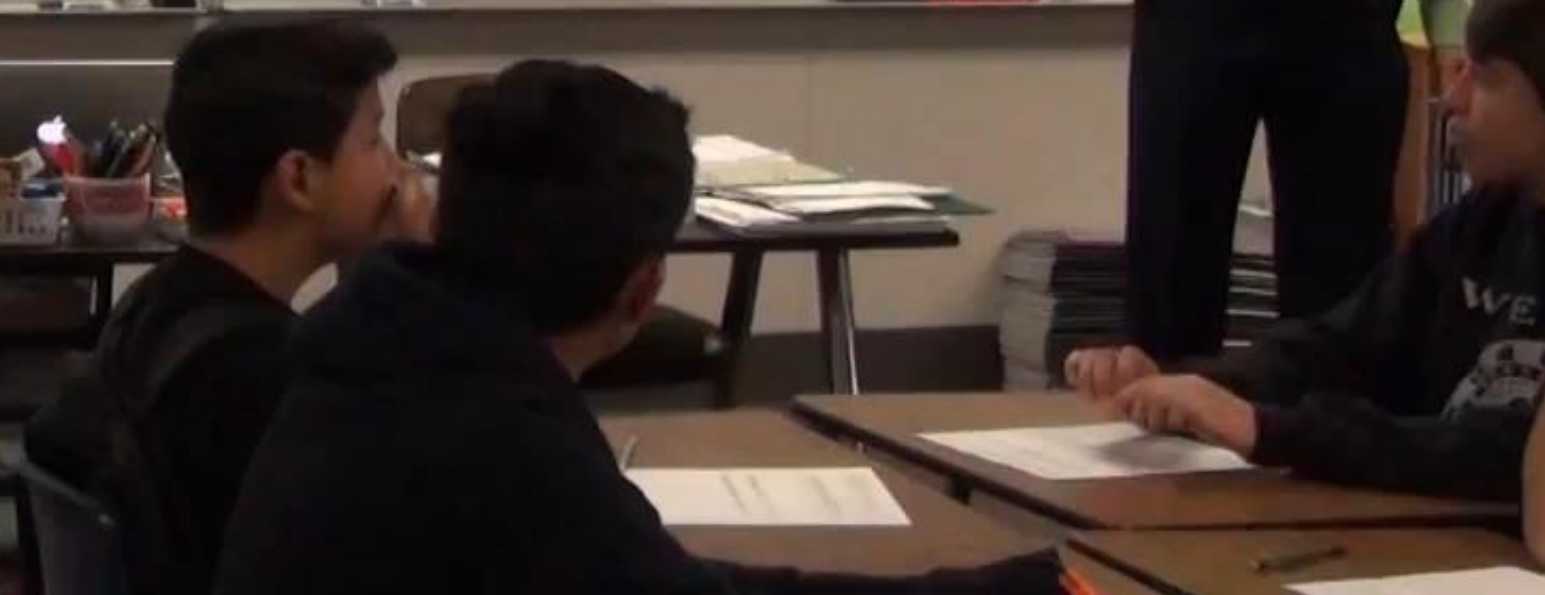
Thousands			Millionths			Billionths			Trillionths		
10 ³	10 ²	10 ¹	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻⁹	10 ⁻⁸	10 ⁻⁷	10 ⁻¹²	10 ⁻¹¹	10 ⁻¹⁰

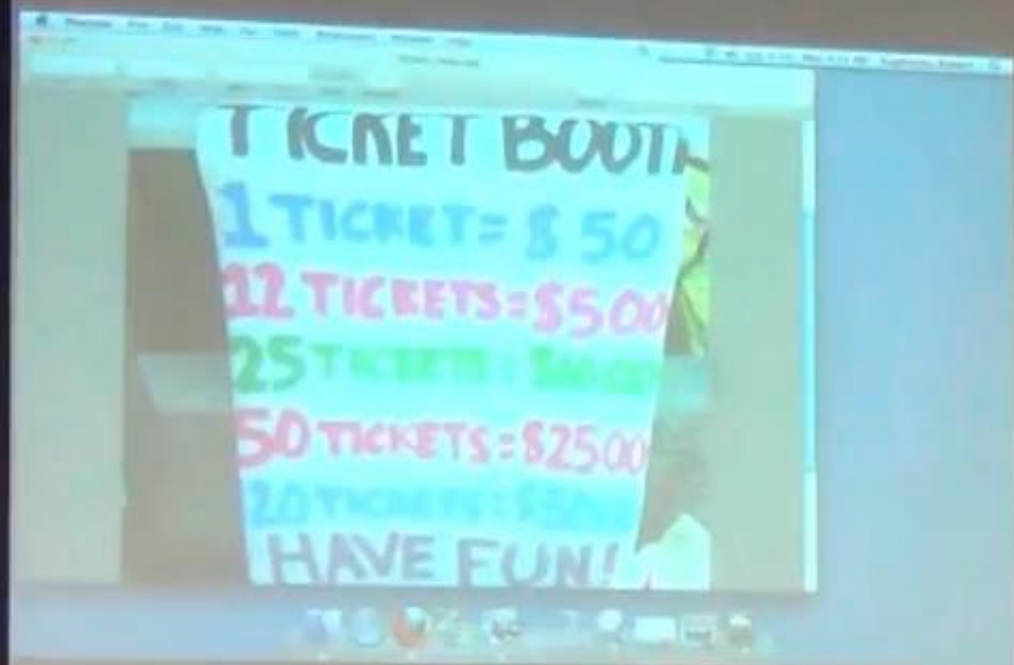
3/11/14 Agenda

7 th Grade	8 th Grade
Video Lesson	Video Lesson
Homework	Homework

Mr. Kaplinsky

40 objectives done





PLACE VALUE SYSTEM									
ns	Billions			Millions			Thousands		
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰
10 ⁹	10 ⁸	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹	10 ⁰

3/17/14 agenda

7th Grade

Video Lesson

Homework

8th Grade

Video Lesson

Homework

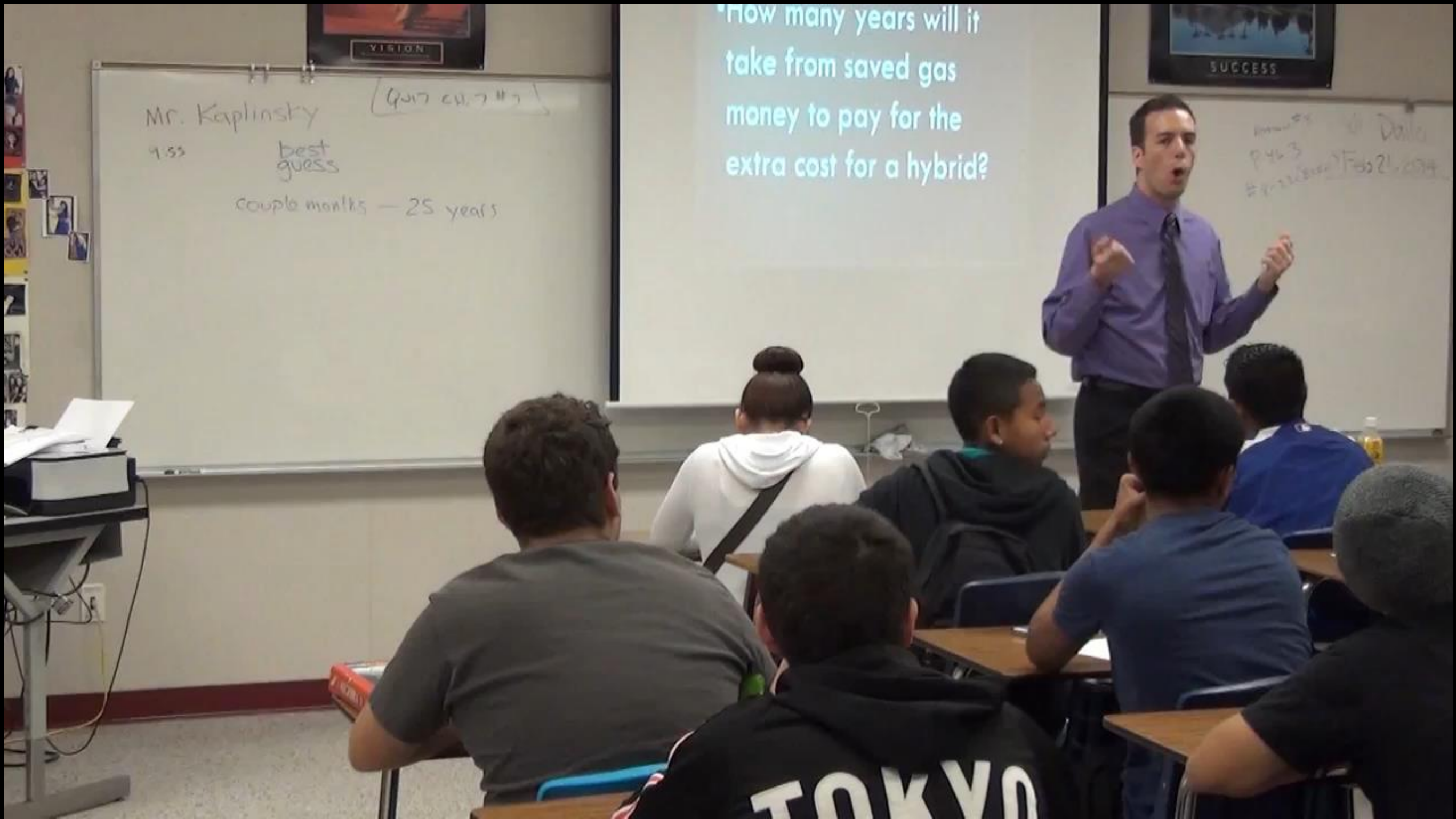
Mr. Kaplinsky

- # of tickets for a ride
- How many rides there are
- How much money you need
- # of people in group
- How long you will stay

46 objectives due by 4/30



Does a
hybrid car
pay for
itself?



How many years will it
take from saved gas
money to pay for the
extra cost for a hybrid?

Mr. Kaplinsky

9.55

best
guess

couple months - 25 years

Answer #3
P463
#4-22-2014 Feb 21, 2014

TOKYO

Age	Male	Female	Total
16-19	8,206	6,873	15,079
20-34	17,976	12,004	29,980
35-54	18,858	11,464	30,322
55-64	15,859	7,780	23,639
65+	10,304	4,785	15,089
Average	16,550	10,142	26,692

Mr. Kaplinsky

9.55

best
guess

couple months — 25 years

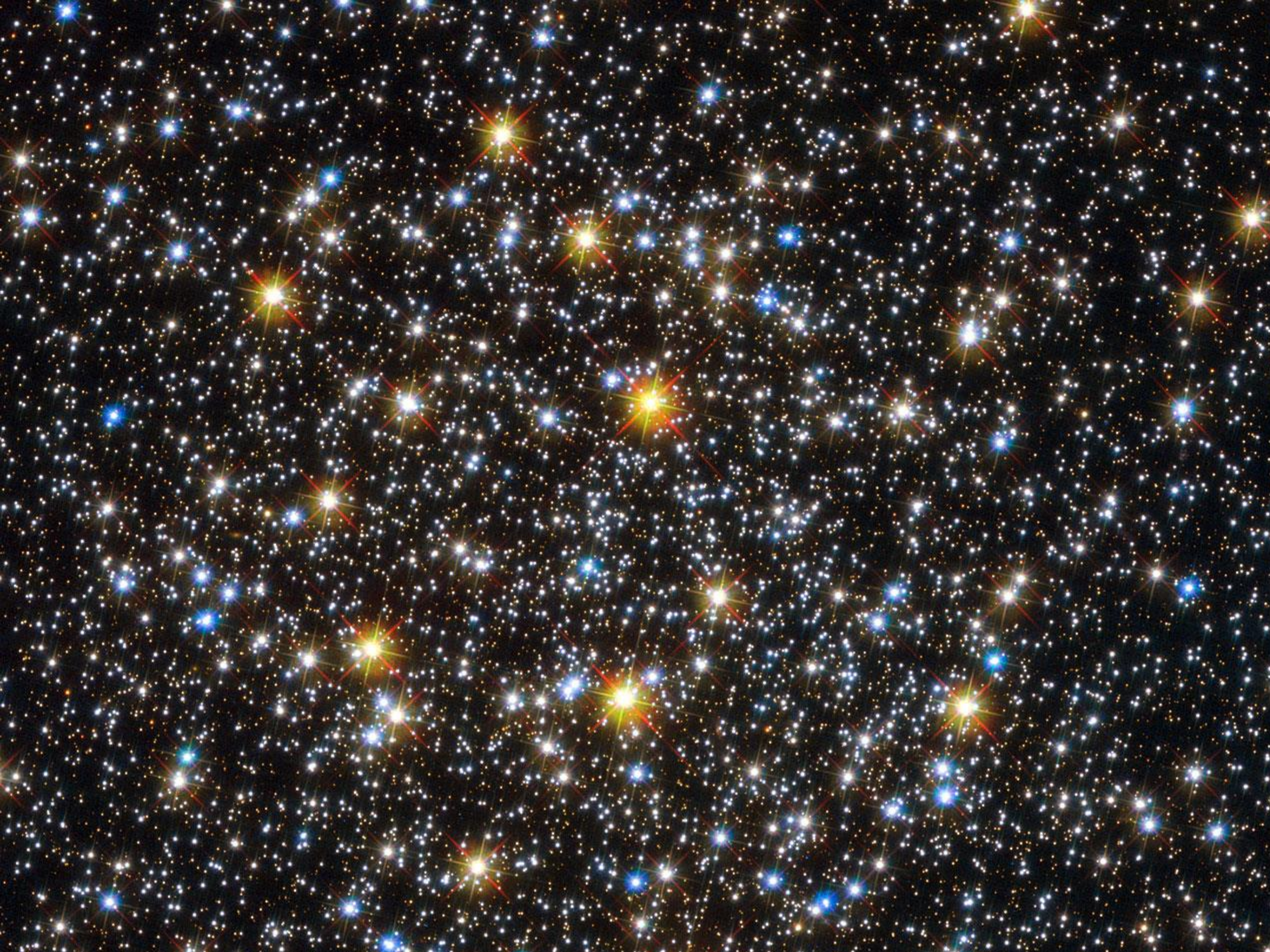
Quiz ch. 7 #3

Age	Male	Female	Total
16-19	8,206	6,873	15,079
20-34	17,976	13,004	30,980
35-54	18,850	11,454	30,304
55-64	15,859	7,780	23,639
65+	10,304	4,785	15,089
Average	16,550	10,142	26,692

SUCCESS

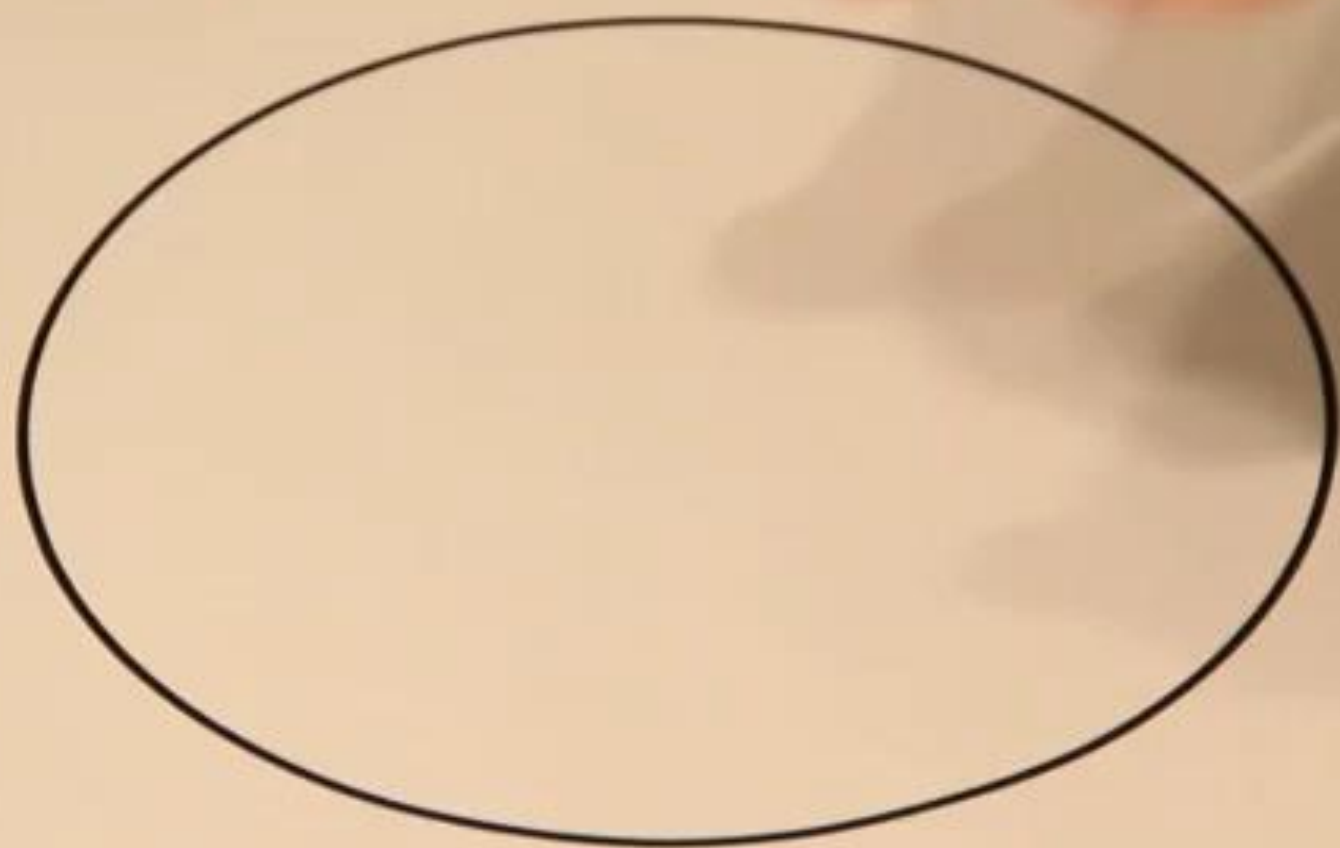
From 09 to Dallas
8423
04-22-2009 Feb 26, 2009

Cost of hybrid car
" " regular car
gas prices
miles per gallon
miles per gallon
miles per gallon
miles per gallon
miles per gallon



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!





American Standard

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



Certified by UAPMO R&T
Certificado por UAPMO R&T

Recorder #
P117364

Item | Artículo: 84065
Model | Modelo: 3381.216.020

- 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

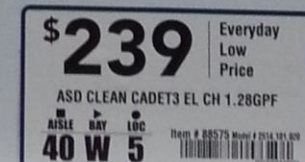


American Standard

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



Certified by UAPMO R&T
Certificado por UAPMO R&T

Recorder #
P117363

Item | Artículo: 88575
Model | Modelo: 2514.101.020

- 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



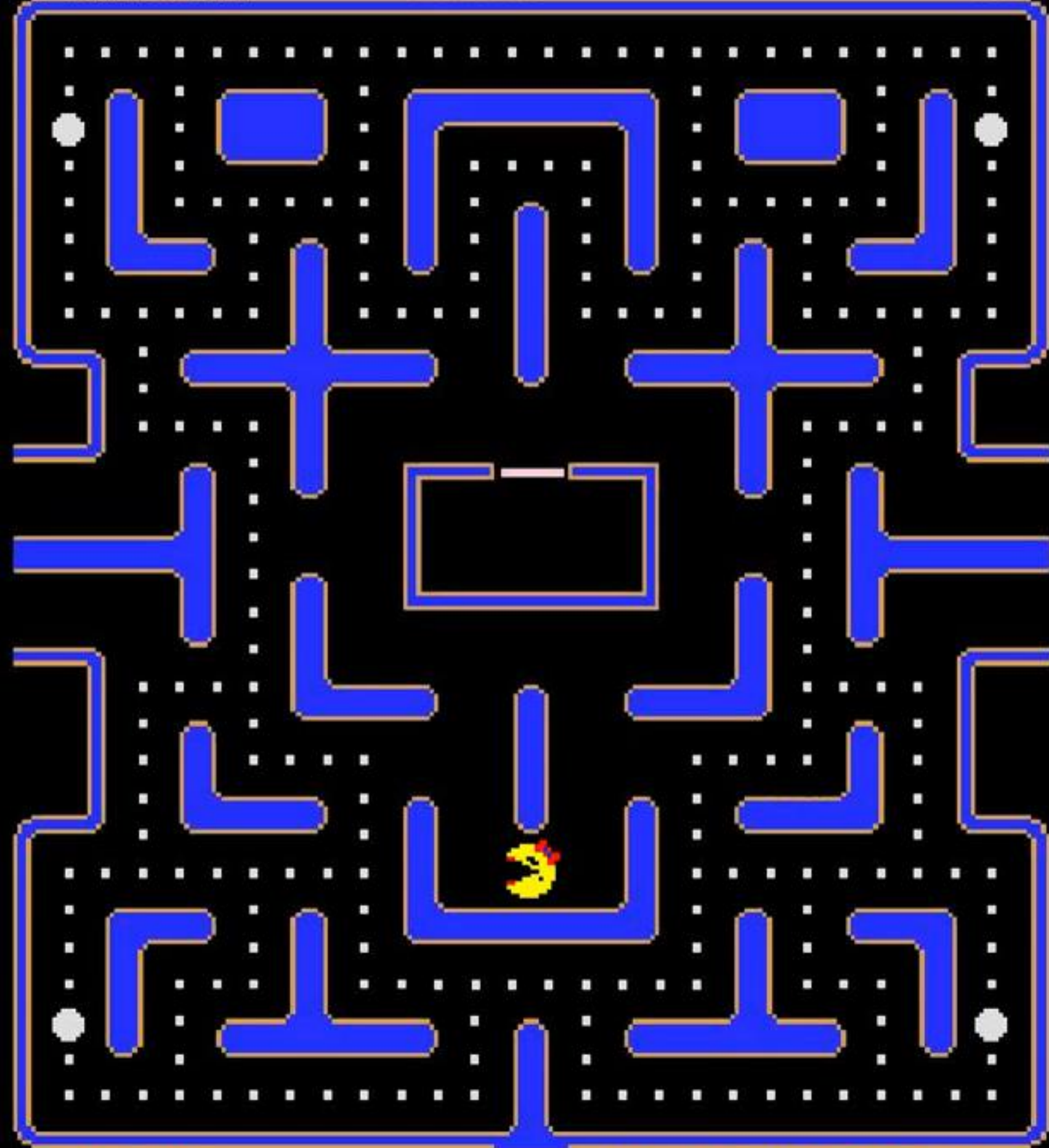
Problem Solving Process

- 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

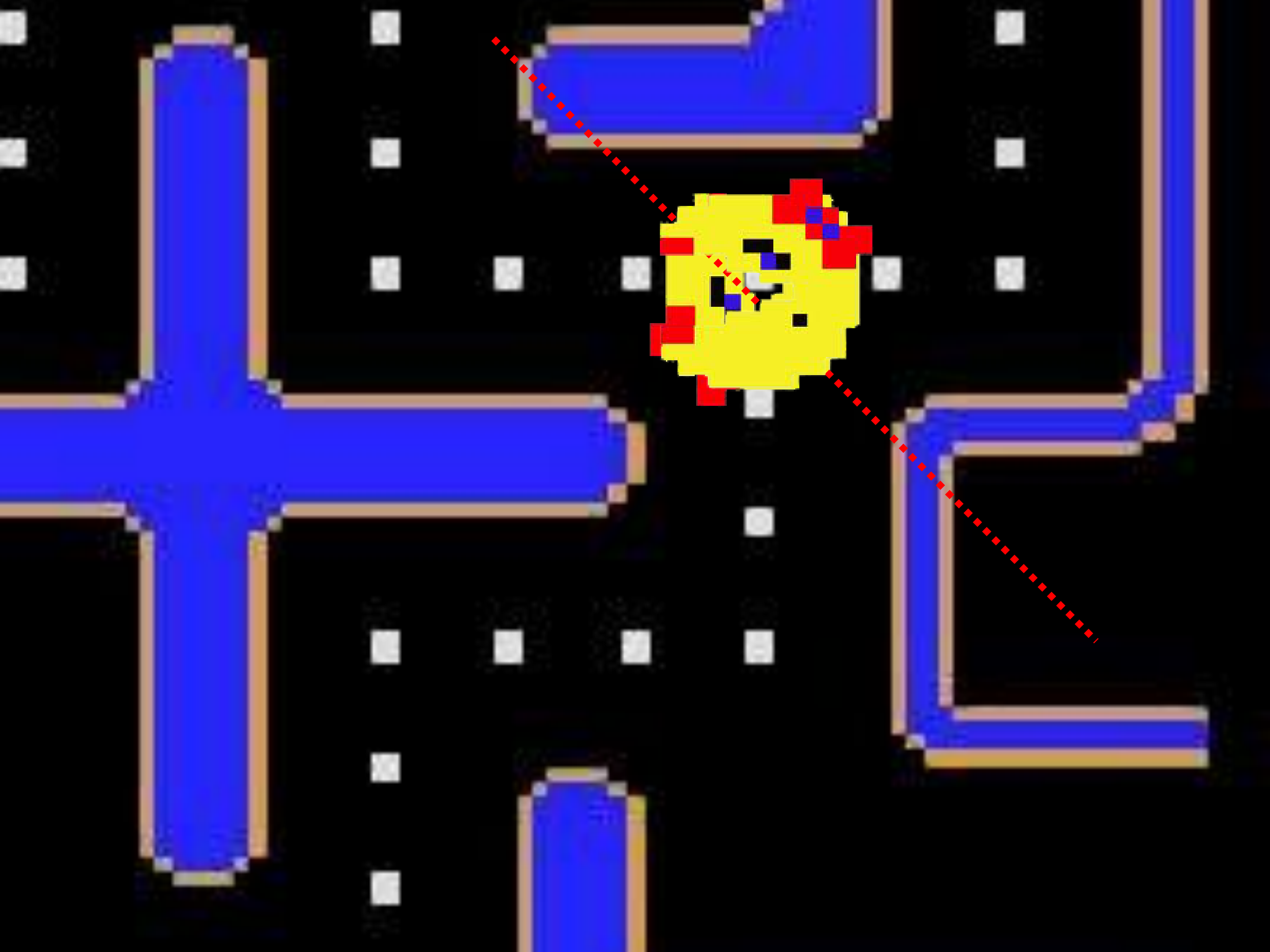
36550

800











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?

20% OFF

**Take 20% off
one single item.**
Present this coupon.



10157 73283 94566 13028

Also excludes Starbucks
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

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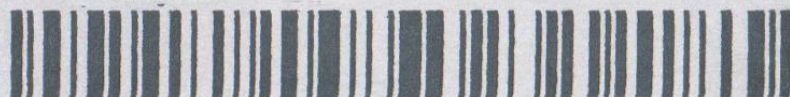
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Ver. 1

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

IA conclusion each conclusion Each Item is good
for different Items

in store purchase, exclusions

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

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

$$15 - 5 = 10 \text{ and } 15 - 20\% = 12$$

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

$$47 - 5 = 42 \quad 47 - 20\% = 37.60$$

$\$5 \text{ off}$ $20\% \text{ off}$
 $42 \text{ vs } 37.60$

$$\begin{array}{ll} \$5 \text{ off} & 20\% \text{ off} \\ 18 \text{ vs } & 18.40 \end{array}$$

$$23 - 5 = 18$$

$$23 - 20\% = 18.40$$

Orange Chicken	5.25	🌶️ Eggplant with Garlic Sauce	5.25
Chicken Lo Mein	5.25	🌶️ Ma Po Tofu	5.25
Cashew Nut Chicken	5.25	🌶️ Broccoli with Garlic Sauce	5.25
🌶️ Pungent Chicken	5.25	🌶️ String Bean with Garlic Sauce	5.25
Sweet & Sour Chicken	5.25	Vegetable Delight	5.25
Curry Chicken	5.25	Bamboo Fungus Tofu	5.25
Lemon Chicken	5.25	Shrimp with Asparagus	6.25
Vegetable Chicken	5.25	Shrimp with Lobster Sauce	6.25
Mongolian Beef	5.25	🌶️ Fish Fillet with Szuchuan Sauce	6.25
Broccoli Beef	5.25	🌶️ Fish Fillet with Black Bean Sauce	6.25
🌶️ Pungent Beef	5.25	Crab meat with Asparagus	6.25
Sweet & Sour Pork	5.25	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 ~~to~~ chicken lomein
if spend \$25 and not redeemable
on lunch, special dinners and
party items

and chicken 10 main.

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

The 10% carbon is best with high
prices and small orders is best
with the free chicken lomein or chesse warden

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

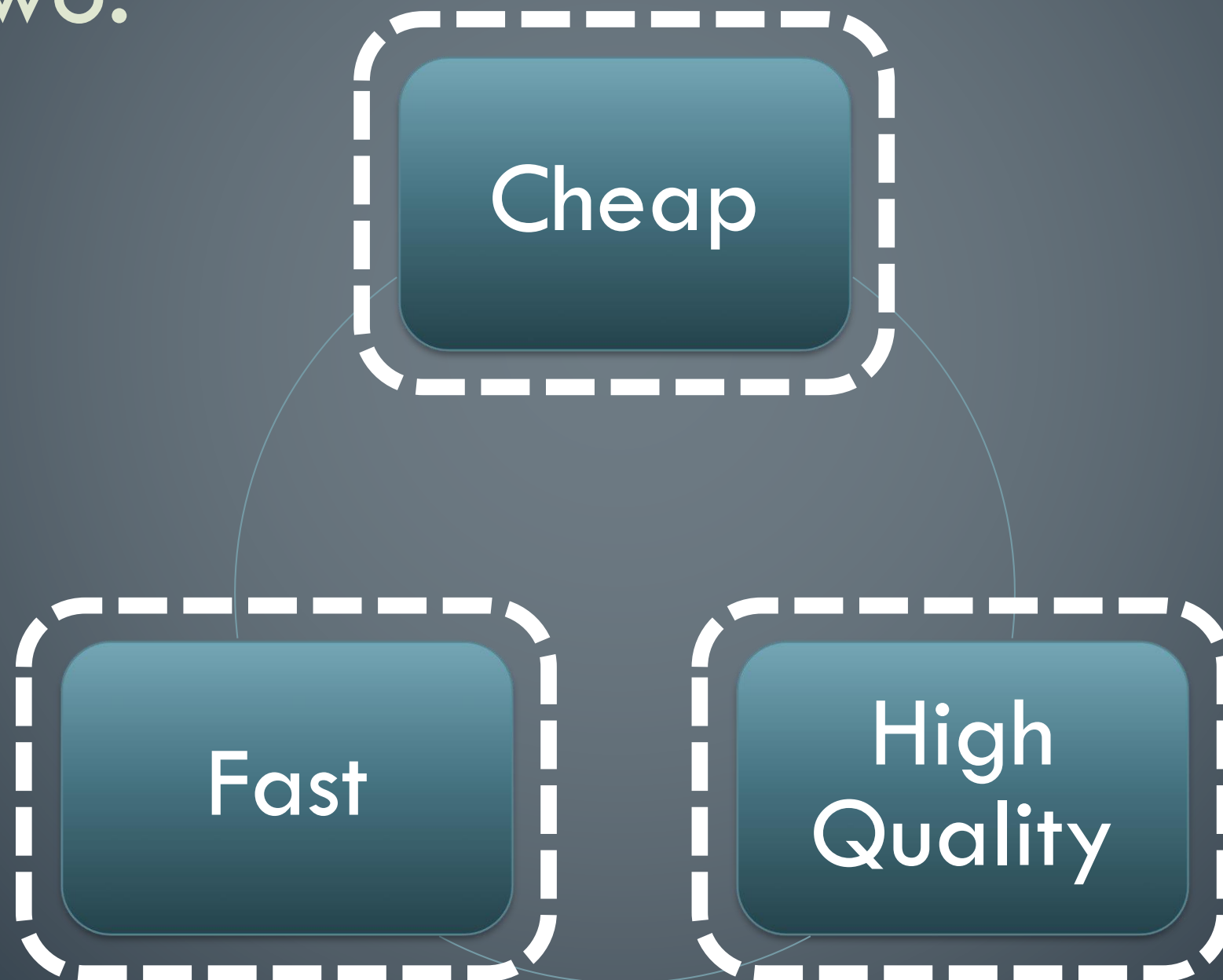
You can use the 10% off when you pay 20-24.99 or more
the Free chicken Lo Mein when you pay 25-49.99 or more
and the Free orange Chicken when you pay 50 or more

Goals

- ✓ Engaging problem solving
 - ✓ Real world problem-based learning
 - ✓ Higher depth of knowledge problems
- ✓ Better implementation
 - ✓ Improve our ability to ask questions
 - ✓ Practice preparing to implement a lesson
 - ✓ Figure out how to deal with uncomfortable situations

Construction

- Pick two:



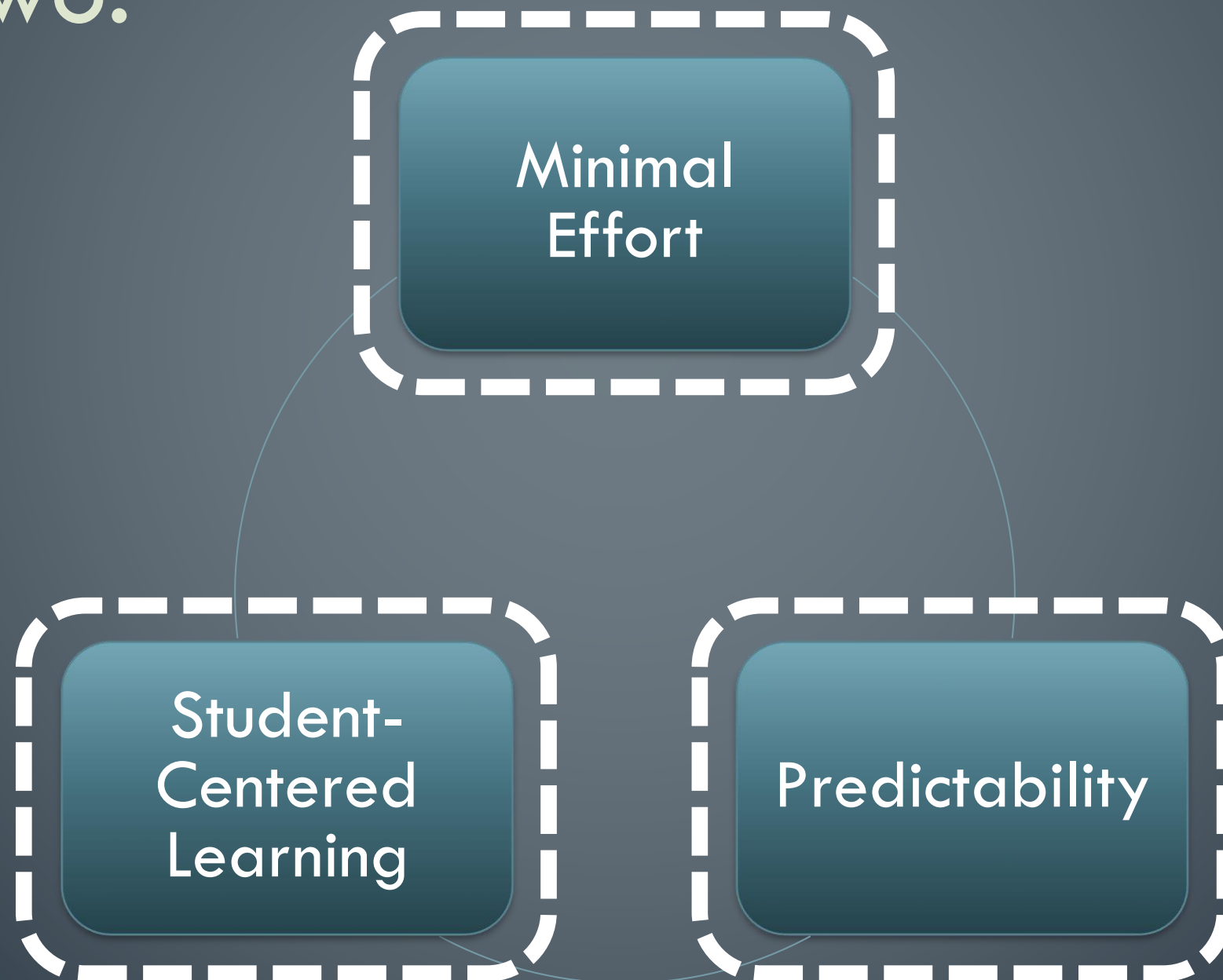
Family

- Pick two:



Problem-Based Learning

- Pick two:



Contact

Robert Kaplinsky



robert@robertkaplinsky.com



robertkaplinsky.com/fhspd/



[@robertkaplinsky](https://twitter.com/robertkaplinsky)

