

Book 2

perforated pages / páginas perforadas

STAPLED®

1-subject notebook

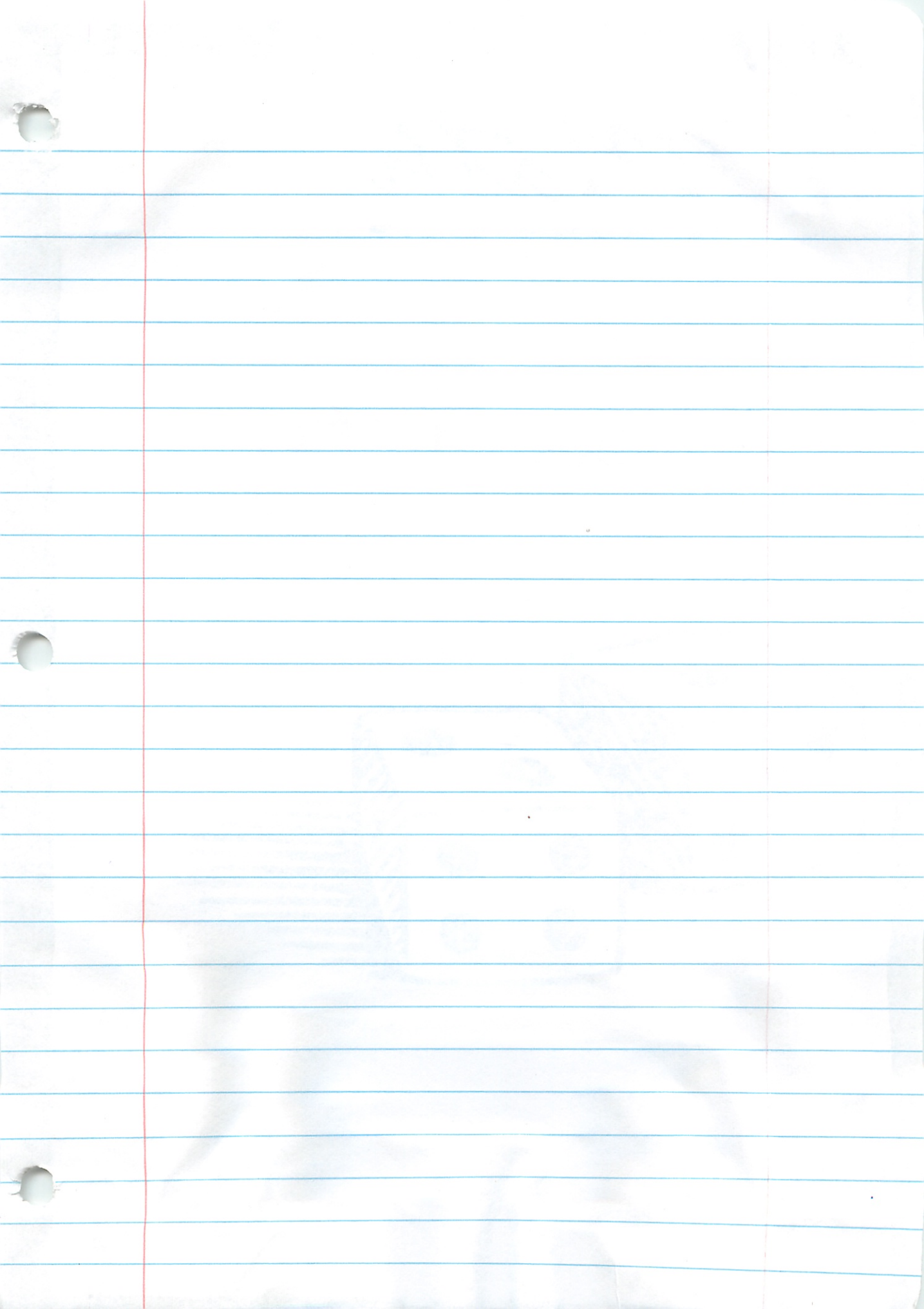
1-materia cuaderno

Math



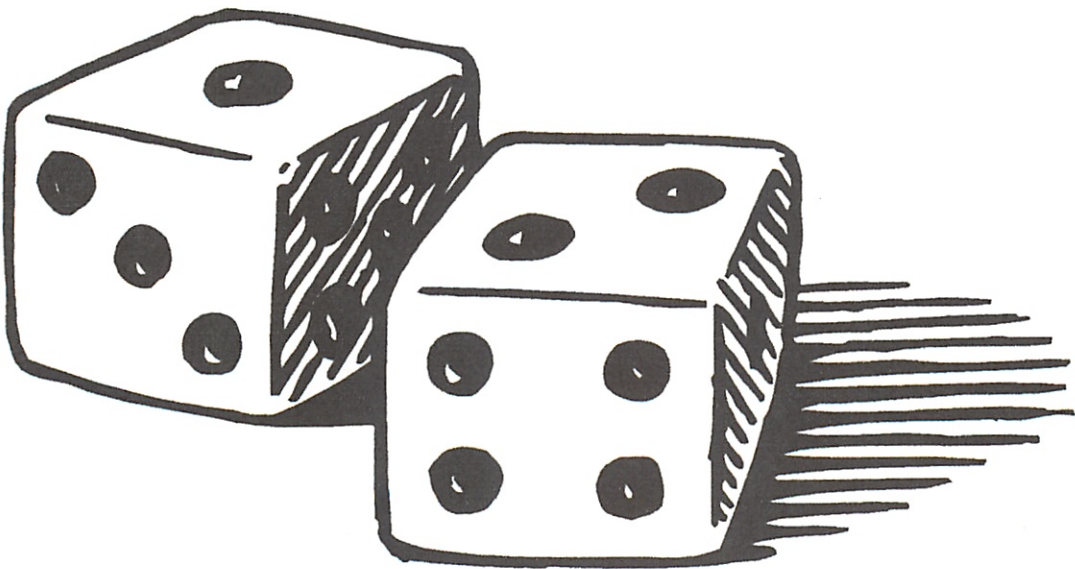
Michael Plasmeier

HR 216



Math

Probability



Probability

Applications W.S.

1/28

#1 Is \ominus likely, there are 3 odds (1,3,5) and 3 evens (2,4,6) $\frac{1}{2} p$

#2 Not \oplus likely, because there are more right handed genes \ominus
However it sort of is a $\frac{1}{2}$ because it is 1 in 2 choices

#3 Not \oplus likely, one side of the marshmallow, is bigger and curved

#4 Is \ominus likely you have $\frac{13}{52} \approx \frac{1}{4}$ chance of drawing a spade suite

There is an equal # of each suit

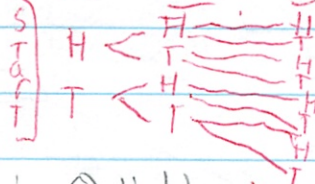
$\frac{13}{4 \times 52}$

#5

- H \rightarrow H \rightarrow H
- H \rightarrow H \rightarrow T
- H \rightarrow T \rightarrow H
- H \rightarrow T \rightarrow T
- T \rightarrow H \rightarrow H
- T \rightarrow H \rightarrow T
- T \rightarrow T \rightarrow H
- T \rightarrow T \rightarrow T

Key H = Heads
T = Tails

check Yes they are all a $\frac{1}{8}$ chance



Look up

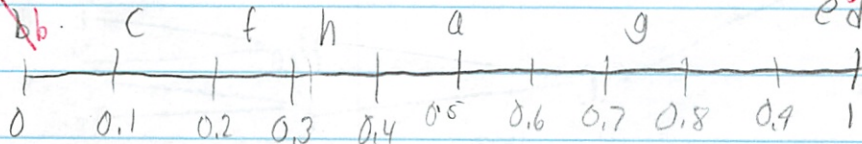
Some have other orders you can do.

~~Any one of these 8 combos is \ominus likely $\frac{1}{8}$~~

3 heads = $\frac{1}{8}$
2H1T = $\frac{2}{8} = \frac{1}{4}$
3T = $\frac{1}{8}$

#6

Sort of



$$P(H+2T) = \frac{3}{8}$$

Correct form

a .5 or $\frac{1}{2}$

b All Most 0 at 0

c $\frac{1}{6}$

d I already has

e 100% almost certain

f $\frac{1}{4}$ - HT - TH T = Tails H = Head

g $\frac{3}{4}$ \rightarrow

h I already have, listen to one every night

i $\frac{2}{6}$ or $\frac{1}{3}$ There are 6 \ominus sections, 2 are red

Probability

2/2

Sandwich

Bread \rightarrow Rye (R)
Pumpernickle (Pump)
White (W)

Meat \rightarrow Salami (S)
Turkey (Tu)
Bologna (B)

Cheese \rightarrow Provolone (Pro)
American (A)

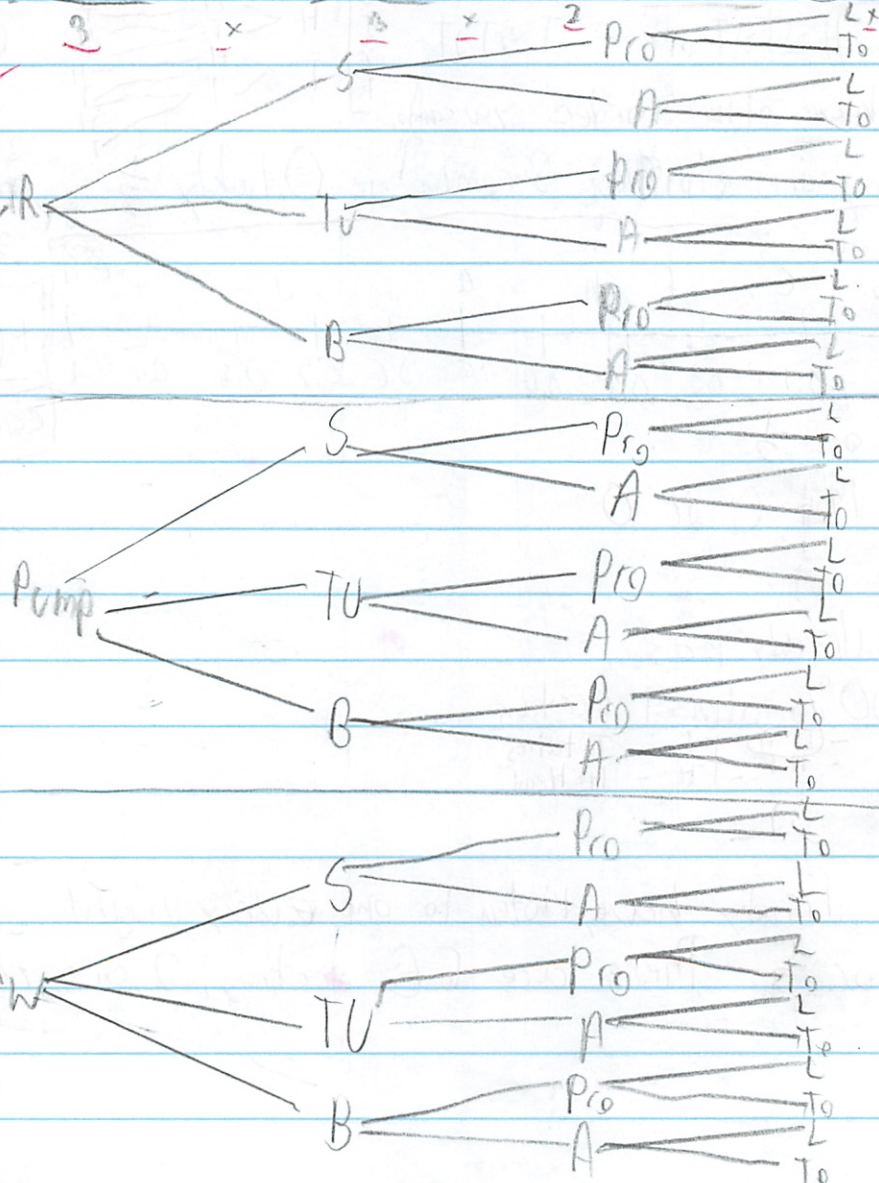
Condiments \rightarrow Lettuce (L)
Tomato (To)

Key: Abbration in "Quotes" \leftarrow Need

Bread \times Meat \times Cheese \times Condiments = 36 outs

Chart:
Need to
Check:

START



Probability

Applications #11 write it

2/2

#11 a. $\frac{1}{18}$ or $P(\text{toasters, blue socks, red hat}) = \frac{\text{# of ...}}{\text{# of outcomes}} = \frac{1}{18} \rightarrow 0.06 \rightarrow 6\%$

b. $\frac{2}{18} \rightarrow \frac{1}{9}$ or $P(\text{breakers, blue or red socks, black hat}) = \frac{\text{# of ...}}{\text{# of outcomes}} = \frac{2}{18} \rightarrow \frac{1}{9}$

c. $\frac{8}{18}$ or $P(\text{? no red})$

$\frac{\text{# of no red}}{\text{# of outcomes}} = \frac{8}{18} \rightarrow 0.42 \rightarrow 42\%$

\downarrow
 $\frac{4}{9}$

$P(\text{not red socks nor red cap})$

Probability

Cake

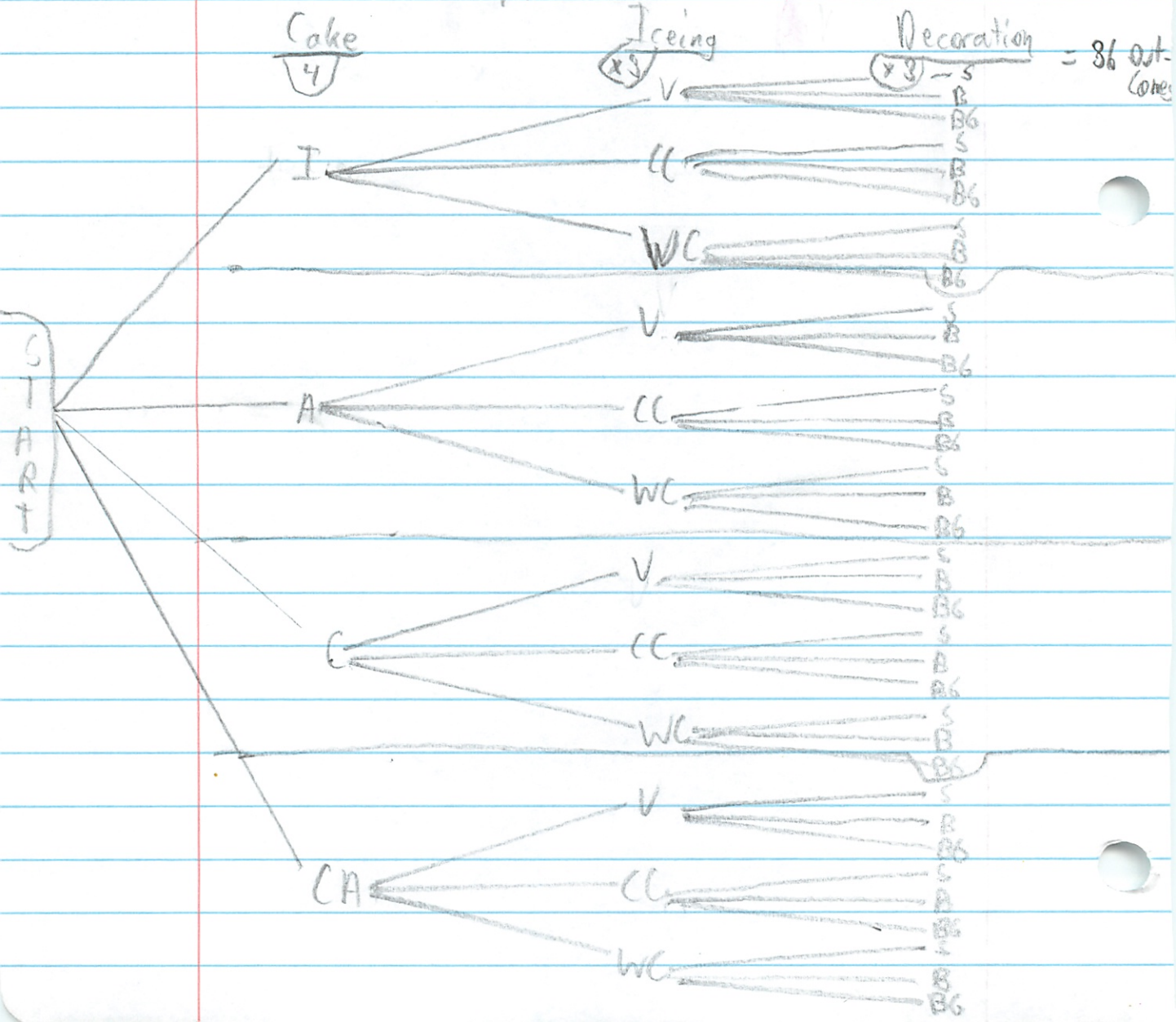
2/3

Cake \rightarrow Ice Cream \rightarrow I
Angel Food \rightarrow A
Chocolate \rightarrow C
Carrot \rightarrow CA

Iceing \rightarrow Vanilla \rightarrow V
Cream Cheese \rightarrow CC
Whipped Cream \rightarrow WC

Decorations \rightarrow Sprinkles \rightarrow S
Bananas \rightarrow B
Bride/Groom \rightarrow BG

key On test list it out
The abber. are next to
the word in the list



Probability

Quiz Practice #1

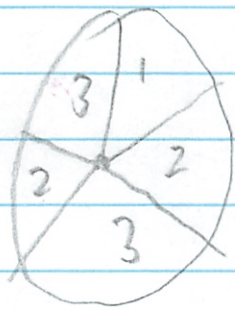
2/4

See Notes in
Back

Probability

Quiz Practice #2

2/4



Spinner A

call =



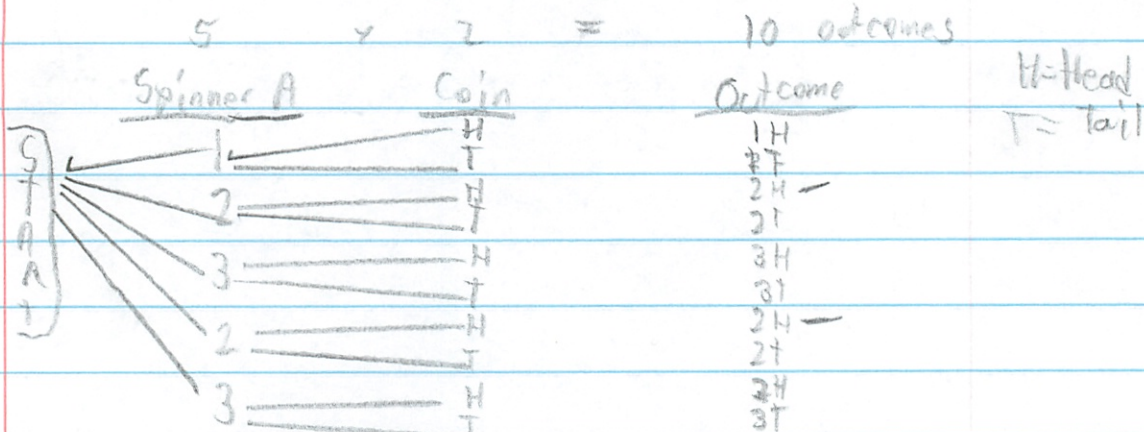
Coin

#1 Create a counting tree to find all the possible outcomes (list) of a turn (spin once, flip once)?

#2 What is the probability that you will spin a 2 and toss a head on a turn?

#3 Are all the outcomes equal likely? Why or why not?

#1



#2 $P(2+heads) = \frac{\# \text{ of } 2+heads}{\# \text{ of outcomes}} = \frac{2}{10} = \frac{1}{5}$

#3 Yes all of the outcomes are = likely, There are 10 outcomes. Some are the same numbers but different outcomes. ? correct

No, there are more 2's + 3's

Probability II

2.1 Followup

#1. 1pt for a 6 or 7

2 occurs 1 8 occurs 5
 3 " 2 9 " 4
 4 " 3 10 " 3
 5 " 4 11 " 2
 6 " 5 12 " 1
 7 " 6

Can Also Do

Cube 1

1	2	3	4	5	6
1	2	3	4	5	6
2	3	4	5	6	7
2	3	4	5	6	7
3	4	5	6	7	8
3	4	5	6	7	8
4	5	6	7	8	9
4	5	6	7	8	9
5	6	7	8	9	10
5	6	7	8	9	10
6	7	8	9	10	11
6	7	8	9	10	11

For Tree
See Packet

Do not have (6 or 7)

$$P(\text{having a 6 or 7}) = \frac{\# \text{ of 6 or 7}}{\# \text{ of outcomes}} = \frac{11}{36}$$

No it is not fair, player A only has a $\frac{11}{36}$ chance of winning. In order for it to be fair a $\frac{1}{3}$

#2 3 points if a multiple of 3

2, 3, 3, 4, 4, 4, 5, 5, 5, 6, 6, 6, 6, 7, 7, 7, 7, 7, 8, 8, 8, 8, 8, 9, 9, 9, 9, 10
 (✓✓) (✓✓✓✓) (✓✓✓✓) (✓✓✓✓)
 10, 10, 11, 11, 12

$$P(\text{Multiple of 3}) = \frac{\# \text{ of multiple of 3}}{\# \text{ of outcomes}} = \frac{12}{36} = \frac{1}{3}$$

36 pts 24 pts

Do P that having

$\frac{1}{3}$ chance of 3 points, $\frac{2}{3}$ chance of getting 1 point.

$$P(\text{not multiple of 3}) = \frac{\# \text{ of not 3y}}{\# \text{ of outcomes}} = \frac{24}{36}$$

No, the game is not fair. Even though A has a $\frac{1}{3}$ chance of getting points he will still probably win. A should only earn 2 points for winning.

Probability 2

2/17

Cube Applications

#1-4

	1	2	3	4	5	6	
1	1	3	4	5	6	7	36 outcomes
2	3	4	5	6	7	8	
3	4	5	6	7	8	9	
4	5	6	7	8	9	10	
5	6	7	8	9	10	11	
6	7	8	9	10	11	12	

#1 $P(\text{sum of 4}) = \frac{\# \text{ of sums of 4}}{\# \text{ of outcomes}} = \frac{3}{36} = \frac{1}{12}$

#2 $P(\text{sum less than 6}) = \frac{\# \text{ of sums less than 6}}{\# \text{ of outcomes}} = \frac{10}{36} = \frac{5}{18}$

#3 $P(\text{sum} = 7 \text{ or } 11) = \frac{\# \text{ of sums} = 7 \text{ or } 11}{\# \text{ of outcomes}} = \frac{8}{36} = \frac{2}{9}$

#4 $P(\text{pair of 5's}) = \frac{\# \text{ of pairs of 5's}}{\# \text{ of outcomes}} = \frac{1}{36}$

#5

		Cube						
	Out	1	2	3	4	5	6	
	1	1-1	1-2	1-3	1-4	1-5	1-6	18 outcomes
Spinner	2	2-1	2-2	2-3	2-4	2-5	2-6	key
	3	3-1	3-2	3-3	3-4	3-5	3-6	Spinner-Cube

b. $P(1-1) = \frac{\# \text{ of } 1-1}{\# \text{ of outcomes}} = \frac{1}{18}$

c. $P(\text{not } 1-1) = \frac{\# \text{ of not } 1-1}{\# \text{ of outcomes}} = \frac{17}{18}$

d. $P(a=1) = \frac{\# \text{ of } a=1}{\# \text{ of outcomes}} = \frac{8}{18} = \frac{4}{9}$

e. $P(a=1, 2-2, 3-3) = \frac{\# \text{ of } 1-1, 2-2, 3-3}{\# \text{ of outcomes}} = \frac{3}{18} = \frac{1}{6}$

f. $P(\text{sum greater than 8}) = \frac{\# \text{ of sum} > 8}{\# \text{ of outcomes}} = \frac{1}{18}$

g. $P(0-0) = \frac{\# \text{ of } 0-0}{\# \text{ of outcomes}} = \frac{0}{18} = 0$

Next page

Probability 2

Applications

2/17

Do also P for 1/20

#6a. The probability is $\frac{2}{36}$ of happening ($P(H) = \frac{\# \text{ of } H}{\# \text{ of outcomes}} = \frac{2}{36} = \frac{1}{18}$)
 b. No, he did not do anything wrong. His luck didn't let him reach the theoretical probability. If he continues to play the game it should work out - human factor

#7 See Chart for 2.2 - Prime is 1 - 5 circled

$P(\text{Prime}) = \frac{\# \text{ of Prime}}{\# \text{ of outcome}} = \frac{6}{36} = \frac{3}{18} = \frac{1}{6}$ | Prime $100 \times \frac{1}{6} = 16.66 \rightarrow 17 \text{ scores}$
 $P(\text{Not Prime}) = 1 - P(\text{Prime}) = \frac{5}{6}$ | Not Prime $100 \times \frac{5}{6} = 83.3 \rightarrow 83 \text{ scores}$

b. No, the game is not fair because they give too many points for a prime winning. They should only give 5 points if the player has a $\frac{1}{6}$ chance of scoring

#8 They are both sort of right. In a perfect world she would roll a 1 just once. Like in #6 chance plays a part in what might happen. But because a 1 once is pretty stable happening it will probably work $\frac{3}{4}$ of the time.

#9 Rachel is correct there is no way with what you start with to get a 23. Its like with the sandwiches you can't have a peanut-butter sandwich if you don't have peanut-butter.

16.66
 100
 333
 1666
 x 5
 8330

Probability 2

2/17

Additional Practice 2 Tetrahedron Investigation

1, a

	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

16 outcomes

b. $P(\text{sum } 5) = \frac{\text{\# of 5's}}{\text{\# of outcomes}} = \frac{4}{16} \rightarrow \frac{1}{4} \rightarrow \frac{8}{32}$

c. $P(\text{sum } 4) = \frac{\text{\# of sum 4's}}{\text{\# of outcomes}} = \frac{3}{16} \rightarrow \frac{6}{32}$

d. $P(\text{sum } 7) = \frac{\text{\# of sum 7's}}{\text{\# of outcomes}} = \frac{2}{16} \rightarrow \frac{1}{8} \rightarrow \frac{4}{32}$

e. Yes the game is fair, everyone has a $\frac{1}{2}$ chance of winning - $P(\text{even}) = \frac{8}{16} \rightarrow \frac{1}{2} \rightarrow \frac{16}{32}$ - $P(\text{odd}) = 1 - P(\text{even}) = \frac{1}{2} \rightarrow \frac{16}{32}$

f. $P(\text{sum } 8) = \frac{\text{\# of sum 8's}}{\text{\# of outcomes}} = \frac{1}{16} \rightarrow \frac{2}{32}$, No, I would not consider that unusual a sum of 8 has a $\frac{2}{32}$ probability

2 a. $P(\text{heart}) = \frac{\text{\# of hearts}}{\text{\# of cards}} = \frac{13}{52} \rightarrow \frac{1}{4}$

b. $P(\text{clubs}) = \frac{\text{\# of clubs}}{\text{\# of cards}} = \frac{13}{52} \rightarrow \frac{1}{4}$ - $12 \times \frac{1}{4} = 3$ cards would be ~~clubs~~ hearts because $\frac{1}{4}$

(the P of clubs) times or of 12 cards would be 3 cards

c. $P(\text{clubs}) = \frac{\text{\# of clubs}}{\text{\# of cards - diamonds}} = \frac{12}{39} \rightarrow \frac{1}{3}$ - $12 \times \frac{1}{3} = 4$ cards because when you remove

diamond you get 39 cards so $\frac{1}{3}$ is the new P of clubs, $\frac{1}{3}$ of 12 is 4

d. They are theoretical probability because you never draw cards and worked with numbers.

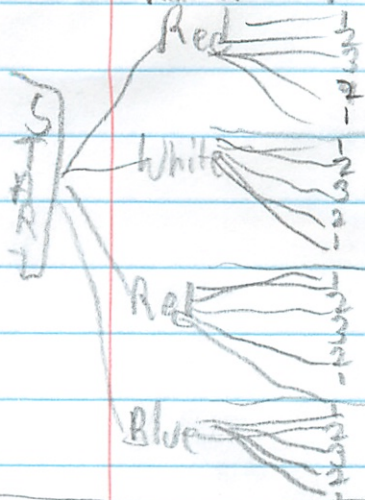
$$\frac{52}{-13}$$

$$39$$

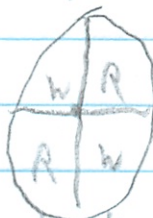
Probability 2

2/23

HW
Spinner A x Spinner B - 20 outcomes

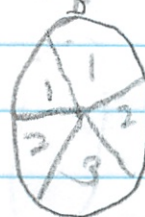


Spinner



4 equal sections
90° each

Spinner



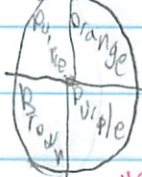
5 equal sections
72° each

Write it out

Review sheet

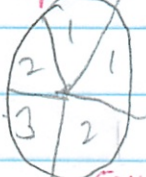
1,

Spinner A



4 equal sections
90° each

Spinner B



4 equal sections
72° each

key

O = Orange

B = Brown

P = Purple

2,

	B	1	2	3	2	1
A	O	O1	O2	O3	O2	O1
	P	P1	P2	P3	P2	P1
	B	B1	B2	B3	B2	B1
	P	P1	P2	P3	P2	P1

20 outs

Write info list

3, $P(P2)$

$\frac{\# \text{ of } P2's}{\# \text{ of outcomes}}$

$\frac{3}{20} \Rightarrow \frac{12}{100} \Rightarrow \frac{1}{5}$

4, $P(\text{no 1})$

$\frac{\# \text{ of no 1's}}{\# \text{ of outcomes}}$

$\frac{12}{20} \Rightarrow \frac{6}{10} \Rightarrow \frac{3}{5}$

Part 2

2 x number cubes (1-6) 15

a $P(\text{product of 6}) = \frac{\# \text{ of product of 6}}{\# \text{ of outcomes}} = \frac{12}{36} \Rightarrow \frac{1}{3}$

b $\frac{15}{36} \times 100 = 41.7 \Rightarrow 42$ times out of 100

c $P(\text{product multiple of 11}) = \frac{\# \text{ of product of 11}}{\# \text{ of outcomes}} = \frac{0}{36} = 0$

d $P(\text{product multiple of 7}) = \frac{\# \text{ of product of 7}}{\# \text{ of outcomes}} = \frac{0}{36} \Rightarrow 0 \times 1 \text{ mill} = 0$

See other chart

See Next page for this

5/12 = 100/1200
Show $\left(\begin{array}{l} 5 \times 100 = 500 \\ 500 = 12 \times 41.7 \\ 500 \\ 12 \end{array} \right) \Rightarrow 41.7 = 42$

Math

Buyer
Beware



Buyer Beware

Unit 1 - Unit Price

3/25

#3

Buy order	Cookie Unit prices	# cookies	\$ per box	per cookie
4	Snack Size	4 cookies	.50	.13
2	Reg. "	17 "	1.39	.8
3	Family "	46 "	3.99	.9
1	Giant "	72 "	5.29	.7

Show →

Price per cookie = $\frac{\text{Pak Price}}{\text{\# of cookies}}$

Snack $\frac{.50}{4} = .13$ per cookie

The Giant size cookie is the best buy for 7 cents

- The Giant size cookie is the best buy for 7 cents
- Up there

0 of 0

Order of Opps

$$\begin{array}{r}
 1 \quad 5 + 2 \times 8 \\
 \quad 5 + 16 \\
 \quad \hline
 \quad 21
 \end{array}
 \qquad
 \begin{array}{r}
 2 \quad 2 + 16 \div 2 - 11 \\
 \quad 2 + 8 - 11 \\
 \quad \hline
 \quad 10 - 11 \\
 \quad \hline
 \quad -1
 \end{array}
 \qquad
 \begin{array}{r}
 3 \quad 13 - 2 + 7 \\
 \quad 11 + 7 \\
 \quad \hline
 \quad 18
 \end{array}$$

$$\begin{array}{r}
 4 \quad 2a + 7(c+d) \\
 \quad 2 \times 3 + 7(2+6) \\
 \quad \hline
 \quad 6 + 7 \times 8 \\
 \quad \quad 6 + 56 \\
 \quad \quad \hline
 \quad \quad 62
 \end{array}$$

Could do on 1 line

If
 $a=3$
 $c=2$
 $d=6$

Show

All this

	Price per cookie	Pak Price	# of cookies	per cookie
Snack	$\frac{\$.50}{4 \text{ cook}}$	.125	.130	
Reg	$\frac{\$1.39}{17 \text{ cook}}$	.081	.8	
Fam	$\frac{\$3.99}{46 \text{ cook}}$	.086	.9	
Giant	$\frac{\$5.29}{72 \text{ cook}}$	.073	.7	

Buyer Beware

① - Unit Prices

Don't Really need 4/13

⑦ chart

Brand	Pack Price	# Cookies	Weight
Mini Chips	\$ 1.39	17	6oz
Duff's Delight	\$ 2.29	10	11oz

1. Price per oz because cookies different sizes
2. Chips: 17 cookies - $\frac{\$1.39}{17 \text{ cookies}} = .0817 \text{ or } 8.17\text{¢/cookie} \rightarrow 23\text{¢/oz}$
Delights: 10 cookies - $\frac{\$2.29}{10 \text{ cookies}} = .229 \text{ or } 22.9\text{¢/cookie} \rightarrow 20\text{¢/oz}$
3. Delights are the best size because they cost only 20¢ an oz compared to 23¢ an oz for Chips.

Can also do: (Mrs's way)

$$\text{Price per oz} = \frac{\text{Pack price}}{\text{pack weight}}$$

$$\text{Price per cook} = \frac{\text{Pack price}}{\# \text{ of cook}}$$

Mini
 $\frac{\$1.39}{6 \text{ oz}} \rightarrow .231 \rightarrow 23\text{¢/oz}$

Mini
 $\frac{\$1.39}{17 \text{ cook}} \rightarrow .081 \rightarrow 8\text{¢/cook}$

Duffy
 $\frac{\$2.29}{11 \text{ oz}} \rightarrow .208 \rightarrow 21\text{¢/oz}$

Duffy
 $\frac{\$2.29}{10 \text{ cook}} \rightarrow .229 \rightarrow 23\text{¢/cook}$

HW P34
 1. 2oz crackers = 1.19
 $0.17/\text{oz} \rightarrow 17\text{¢/oz}$

2. 14oz cheese = 1.19
 $0.085/\text{oz} \rightarrow 9\text{¢/oz}$

3. 16 box raisins = 5.60
 $0.35/\text{box} \rightarrow 35\text{¢/box}$

4. 35oz = .69 (P/dm)
 $4/16 = 1.80/\text{Sun}$

56oz = 1 (Fav.) 1.71/oz

36oz = .58 (Delight) 1.6¢/oz ← Best Buy

Item	Jeff	Tom	Peelict	Act
oil	12oz = 10.9¢	6oz = 5.99		92 1
anti	12oz = 3.79	6oz = 1.79		32 (30)
way	6 can = 14.29	5c = 12.98		238 5.6

35oz → 2¢/oz ← Best Buy

64oz → 3¢/oz

All Right

Buyer Beware

② - Graph Prices

4/14

- (P8)
- #1 ^{3oz Mer Bar} The price if different sizes cost the same (Unit price) is somewhere between \$1.25 and \$1.50
 - #2 ^{Saturn Bar} The price if different sizes cost the same (Unit price) is somewhere between 25¢ and 50¢ - 43¢ - 40¢
 - #3 The lowest unit price is the lowest line as Mercury Bars. The highest Unit price is the highest line or Supter Bars
 - #4 **MRS Wayi**

Price per pack price
oz $\frac{\text{Price}}{\text{\# of oz in pack}}$

Mercury

$\frac{\$1.50}{202} = .5 \rightarrow 50¢/oz$

Supter

$\frac{\$2.98}{3.5oz}$

- (P8)
1. 4oz Aloe $\rightarrow \$2.30$
 2. .5oz Shine $\rightarrow 50¢$
 3. Lowest Unit Price \rightarrow Aloe
 4. Highest Unit Price \rightarrow Shine

Powers

3/20

Base - # that is by itself (factor)
Exponent - # of times to multiply the factor

Expression

$$4^5$$

Read -> 4 to the 5th power

$$4 \times 4 \times 4 \times 4 \times 4$$

Powers - can multiply # by itself for #

1024 power of 4, 8, 2

$4^5 \in$ exponential notation

$4 \times 4 \times 4 \times 4 \times 4 \in$ expanded notation or form

1024 \in standard notation

Write as a product

$$8^7$$

$$8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8$$

Evaluate

$$2^4$$

$$2 \times 2 \times 2 \times 2$$

$$16$$

Show
all
process

Write using exponents

$$2 \times 2 \times 2 \times 2 \times 2$$

$$2^5$$

From 2 p.g.

Back

Buyer Beware

③ Bulk Prices

4/15

1. MRS way

$$\text{Price per lbs} = \frac{\text{Pak Price}}{\text{Pak Weight}}$$

$$\frac{2 \text{ lbs}}{\$1.08} = .545 \rightarrow \text{\$54/lbs}$$

$$\frac{5 \text{ lbs}}{\$2.69} = .538 \rightarrow \text{\$54/lbs}$$

$$\frac{10 \text{ lbs}}{\$4.99} = .499 \rightarrow \text{\$50/lbs}$$

$$\frac{20 \text{ lbs}}{\$7.99} = .3995 \rightarrow \text{\$40/lbs}$$

2. The 20 lbs bag is the best buy at 40¢/lbs. The bigger the bag, the cheaper the rice is true.

3. It would depend how much rice that I person eats. However a smaller bag might be a better value. 2 lbs

4. A 5 lbs bag probably would be good or 10 lbs.

1. Price per lbs = $\frac{\text{Thing Price}}{\text{Thing Weight}}$

	<u>Bike</u>
$\frac{139.90}{43 \text{ lbs}}$	$3.255 \rightarrow \text{\$3.26/lbs}$

<u>Shoes</u>	$\rightarrow 42.495$
$\frac{89.90}{21 \text{ lbs}}$	$\rightarrow \text{\$42.50/lbs}$

<u>Camera</u>	$\rightarrow 72.6363$
$\frac{79.90}{11 \text{ lbs}}$	$\rightarrow \text{\$72.64/lbs}$

<u>Fridge</u>	$\rightarrow 2.9562$
$\frac{679.90}{230 \text{ lbs}}$	$\rightarrow \text{\$2.96/lbs}$

2. Most to least expensive 1. Camera 2. Shoes 3. Fridge 4. Bike

3. A camera and shoes have high prices per lbs (low weight)

4. A bike and fridge have low price per lbs. (high weights)

Buyer Beware
(4) - It Adds Up

4/16

(p12)

#1	Type of Pretzel	Price/dls	Price/week	price 4.3 weeks	price 1
	Crunchy Pretzels	.65	4.55	19.57	234.7
	No-Ad Pretzels	.50	3.50	15.05	180.
#2	Savings vs. No-Ad	.15	1.05	4.52	54.7

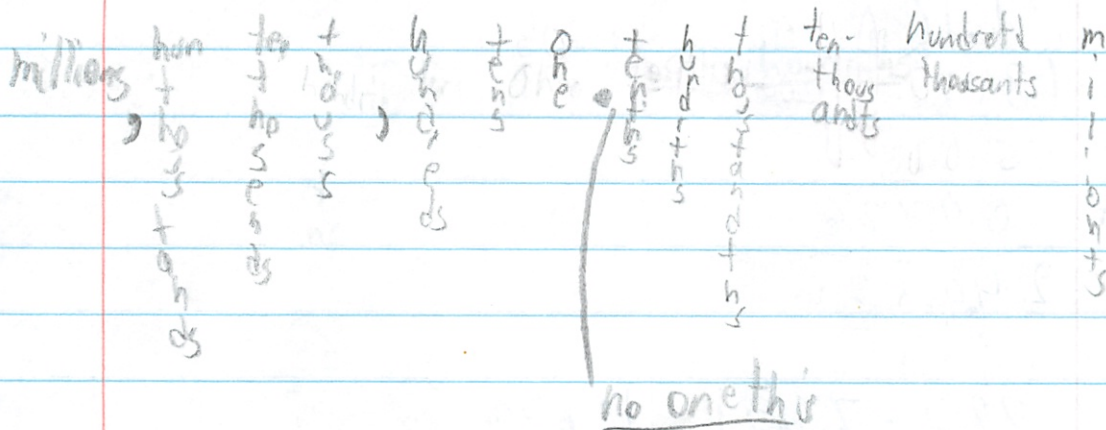
#3 Savings of \$30 → 200 days
Savings of \$75 → 500 days.

I found this by dividing the target money amount by the 1st savings,

Decimal Review ☹️

4/19

Place Value



4.008 \rightarrow four and eight thousandths

sixteen and twenty-two hundred-thousandths \rightarrow
16.00022

Compare using $<$, $=$, $>$

0.4 $>$ 0.3975

Rounding

4.67 \rightarrow nearest tenth \rightarrow 4.7

3.8972 \rightarrow hundredth \rightarrow 3.90

+ , -
Decimal

4/28

1. $1.16 + 18.7 + 5 + 0.0726$
 $= 24.9326$

$$\begin{array}{r} 1.16 \\ 18.70 \\ 5.00 \\ + 0.0726 \\ \hline 24.9326 \end{array}$$

could put in 0's

2. $23.1 - 7.421 = 15.679$

$$\begin{array}{r} 23.100 \\ - 7.421 \\ \hline 15.679 \end{array}$$

Decimal Review

4/21

$$\begin{array}{r} \textcircled{1} \\ \begin{array}{r} 275 \\ \times 32 \\ \hline 550 \\ + 8150 \\ \hline 8700 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{2} \\ \begin{array}{r} 33 \\ 467 \\ \times 58 \\ \hline 2336 \\ + 23360 \\ \hline 27086 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{3} \\ \begin{array}{r} 379 \\ \times 46 \\ \hline 2274 \\ + 15160 \\ \hline 17434 \end{array} \end{array}$$

~~Addition
Mistake~~

$$\begin{array}{r} 2982 \\ 9 \overline{) 26838} \end{array}$$

New way

$$\begin{array}{r} 5112 \\ 12 \overline{) 61344} \\ \underline{-600} \\ 134 \\ \underline{-120} \\ 144 \\ \underline{-120} \\ 24 \\ 24 \end{array}$$

$$\begin{array}{r} 24 \\ 6 \overline{) 124} \\ \underline{-104} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

Decimal Review

\times : powers of 10

4/20

1. $1.8 \times 100 \rightarrow 180$

2. $1.8 \div 100 \rightarrow 0.018$

3. $1.8 \times 0.1 = 0.18$

4. $1.8 \div 0.1 = 18$

Fraction Review

5/3

Labels

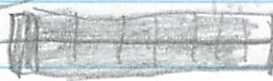
Numerator $\frac{3}{8}$
denominator \rightarrow how many in a whole $\frac{3}{8}$

Types:

improper \rightarrow numerator \geq denominator $\frac{3}{8}$ $\frac{16}{8}$
 proper \rightarrow numerator $<$ denominator $\frac{3}{8}$

Mixed #

whole # + a fraction $2\frac{3}{4}$

Represent ^{equivalent fractions}
 $\frac{7}{8} \rightarrow$  $\frac{14}{16}$ \leftarrow w/ line
 (rectangle w/ 8 equal pieces, 7 shaded)

$2\frac{3}{5}$  (All boxes same size)

Compare 2 fractions

Find $\frac{4}{7} > \frac{5}{63}$ \rightarrow $\frac{36}{63} > \frac{35}{63}$
 $\frac{36}{63} > \frac{35}{63}$

Cross $\frac{4}{7} > \frac{5}{63}$ \rightarrow $4 \times 9 = 36$ $5 \times 7 = 35$ (Show)

Over $\frac{3}{7} > \frac{3.5}{7}$ \rightarrow closer to 0
 $\frac{6}{11} < \frac{5.5}{11}$ \rightarrow 1 half

Fraction Review

Normal

+ -

5/4

(+)

$$\frac{4}{9} + \frac{8}{9} = \frac{12}{9} = 1\frac{3}{9} = 1\frac{1}{3}$$

- need common denominator

$$\frac{7}{8} - \frac{2}{5} \quad (\text{make c. denominator})$$

$$\frac{35}{40} - \frac{16}{40} = \frac{19}{40}$$

- adjust numerators

- make mixed # or not

$$8\frac{4}{9} + 5\frac{3}{6}$$

$$8\frac{8}{18} + 5\frac{15}{18}$$

$$13\frac{23}{18}$$

$$14\frac{5}{18}$$

(-)

$$9\frac{3}{4} - 2\frac{3}{8} = 9\frac{6}{8} - 2\frac{3}{8} = 9\frac{6}{8}$$

converting

$$5 = 4\frac{12}{12} \quad 6\frac{3}{8} = 5\frac{11}{8}$$

$$7\frac{3}{4} = 6\frac{7}{4}$$

$$7\frac{3}{8}$$

$$8\frac{1}{2} - 6\frac{2}{3} = 8\frac{3}{6} - 6\frac{4}{6} = 8\frac{3}{6}$$

$$1\frac{5}{6}$$

Fraction Review

5/6

1. $\frac{1}{2} \times \frac{1}{2} = \frac{1 \times 1}{2 \times 2} = \frac{1}{4}$

2. $\frac{1}{8} \times \frac{3}{5} = \frac{1 \times 3}{8 \times 5} = \frac{3}{40}$

(X)

x numerators
x denominators

3. $\frac{3}{20} \times \frac{5}{8} \times \frac{10}{11} = \frac{15}{22}$

4. $\frac{2}{8} \times \frac{27}{5} = \frac{27}{20} = 1 \frac{7}{20}$

1. $8 \div 2 = 4$ $8 \times \frac{1}{2} = 4$

Model

2. $\frac{9}{16} \div \frac{3}{8} = \frac{9}{16} \times \frac{8}{3} = \frac{3}{2} = 1 \frac{1}{2}$

same answer

$\frac{3}{8} \div \frac{8}{3}$

reciprocal
if x both
get 1 (not work)

$\frac{3}{8} \div \frac{8}{3} = \frac{3}{8} \times \frac{3}{8} = \frac{9}{64}$

Model

$7 \frac{1}{5} = 3 \frac{2}{10}$

$\frac{9}{18} \times \frac{36}{22} = \frac{36}{22} = 1 \frac{18}{11}$

show line before reversing

$\frac{18}{8} = 2 \frac{2}{8} = 2 \frac{1}{4}$

Don't make same denominator

$5 \frac{1}{4} \times 1 \frac{1}{14} = 7 \frac{1}{7}$

$\frac{21}{4} \times \frac{15}{14} = \frac{15}{2}$

$\frac{21}{4} \times \frac{15}{14} \times \frac{2}{1} = \frac{21}{8} = 2 \frac{5}{8}$

Decimals

$$\begin{array}{r} 4.78 \\ - 3.6 \\ \hline 2888 \\ + 14340 \\ \hline 17208 \end{array}$$

$$\begin{array}{r} 35.526 \\ 0.217 \overline{) 7.26312} \\ \underline{-36} \\ 66 \\ \underline{-60} \\ 63 \\ \underline{-60} \\ 31 \\ \underline{-29} \\ 22 \end{array}$$

Did You Here About

Worksheet

8/12

A $2\frac{2}{3} \times 1\frac{2}{3}$
 $2\frac{2}{3} \times 1\frac{2}{3} = \frac{8}{3} \times \frac{5}{3} = \frac{40}{9} = 4\frac{4}{9}$

D $5\frac{1}{2} \times 1\frac{3}{8}$
 $5\frac{1}{2} \times 1\frac{3}{8} = \frac{11}{2} \times \frac{11}{8} = \frac{121}{16} = 7\frac{5}{16}$

G $1\frac{2}{10} \times 6$
 $1\frac{2}{10} \times 6 = \frac{12}{10} \times 6 = \frac{72}{10} = 7\frac{4}{5}$

J $4\frac{1}{2} \times 4\frac{5}{9}$
 $4\frac{1}{2} \times 4\frac{5}{9} = \frac{9}{2} \times \frac{41}{9} = \frac{41}{2} = 20\frac{1}{2}$

M $7\frac{1}{2} \times 1\frac{1}{3} = 7\frac{2}{3}$
 $7\frac{1}{2} \times 1\frac{1}{3} = \frac{15}{2} \times \frac{4}{3} = \frac{30}{2} = 15$

B $1\frac{2}{3} \times 2\frac{2}{5}$
 $1\frac{2}{3} \times 2\frac{2}{5} = \frac{5}{3} \times \frac{12}{5} = 4$

E $4\frac{4}{5} \times 2\frac{1}{10}$
 ~~$4\frac{4}{5} \times 2\frac{1}{10} = \frac{24}{5} \times \frac{21}{10} = \frac{504}{50} = 10\frac{12}{25}$~~
 $4\frac{4}{5} \times 2\frac{1}{10} = \frac{24}{5} \times \frac{21}{10} = \frac{504}{50} = 10\frac{12}{25}$

H $2\frac{3}{4} \times 18$
 $2\frac{3}{4} \times 18 = \frac{11}{4} \times 18 = \frac{198}{4} = 49\frac{1}{2}$

K $3\frac{2}{3} \times 1\frac{1}{4}$
 $3\frac{2}{3} \times 1\frac{1}{4} = \frac{11}{3} \times \frac{5}{4} = \frac{55}{12} = 4\frac{7}{12}$

C $3\frac{1}{2} \times 3\frac{1}{2}$
 $3\frac{1}{2} \times 3\frac{1}{2} = \frac{7}{2} \times \frac{7}{2} = \frac{49}{4} = 12\frac{1}{4}$

F $3\frac{1}{2} \times 1\frac{1}{6}$
 $3\frac{1}{2} \times 1\frac{1}{6} = \frac{7}{2} \times \frac{7}{6} = \frac{49}{12} = 4\frac{1}{12}$

I $2\frac{2}{10} \times \frac{5}{6}$
 $2\frac{2}{10} \times \frac{5}{6} = \frac{11}{5} \times \frac{5}{6} = \frac{11}{6} = 1\frac{5}{6}$

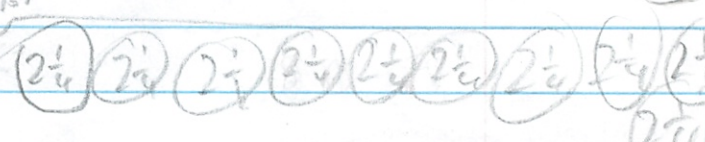
L $5\frac{5}{8} \times 9\frac{3}{8}$
 $5\frac{5}{8} \times 9\frac{3}{8} = \frac{45}{8} \times \frac{75}{8} = \frac{3375}{64} = 52\frac{27}{64}$

N $4\frac{2}{10} \times \frac{4}{7} = 28$
 $4\frac{2}{10} \times \frac{4}{7} = \frac{22}{5} \times \frac{4}{7} = \frac{88}{35} = 2\frac{12}{35}$

O $3\frac{2}{4} = 9\frac{3}{5}$
 $3\frac{2}{4} = \frac{7}{2} = 3\frac{1}{2}$
 $9\frac{3}{5} = \frac{48}{5} = 9\frac{3}{5}$
 $3\frac{1}{2} \times 9\frac{3}{5} = \frac{7}{2} \times \frac{48}{5} = \frac{168}{5} = 33\frac{3}{5}$

P $1\frac{1}{2} \times 3\frac{1}{3}$
 $1\frac{1}{2} \times 3\frac{1}{3} = \frac{3}{2} \times \frac{10}{3} = 5$

Q $10 \times 2\frac{1}{4}$
 $10 \times 2\frac{1}{4} = 10 \times \frac{9}{4} = \frac{90}{4} = 22\frac{3}{4}$



Abracadabra Worksheet

5/12

K $2\frac{2}{3} \div 1\frac{3}{5} = 1\frac{2}{3}$
 $\frac{8}{3} \div \frac{8}{5} \rightarrow$
 $\frac{18}{3} \times \frac{5}{8} = \frac{5}{3}$

S $2\frac{1}{4} = 5\frac{2}{3}$
 $\frac{9}{4} \div \frac{23}{3}$
 $\frac{19}{4} \times \frac{3}{23} = \frac{5}{12}$

I $\frac{7}{12} = 2\frac{5}{3}$
 $\frac{7}{12} = \frac{21}{8}$
 $\frac{12}{30} \times \frac{8 \times 2}{24} = \frac{2}{9}$

T $7\frac{4}{5} \div 1\frac{3}{10} = 6$
 $\frac{39}{5} \div \frac{13}{10} \rightarrow$
 $\frac{3 \times 9}{15} \times \frac{10}{13} = \frac{6}{1}$

E $4\frac{1}{2} \div 1\frac{5}{7} = 2\frac{5}{8}$
 $\frac{9}{2} \div \frac{12}{7} \rightarrow$
 $\frac{3 \times 9}{2} \times \frac{7}{18} = \frac{21}{8}$

O $3\frac{3}{4} \div 12\frac{1}{2}$
 $\frac{15}{4} \div \frac{25}{2}$
 $\frac{9 \times 15}{24} \times \frac{2}{25} = \frac{3}{10}$

Y $9\frac{1}{2} \div 4\frac{23}{5} = \frac{19}{8}$
 $\frac{19}{2} \times \frac{5}{4} = \frac{19}{8}$

N $6 \div 1\frac{5}{16} = 4\frac{4}{7}$
 $\frac{6}{1} \div \frac{21}{16} \rightarrow$
 $\frac{2 \times 6}{1} \times \frac{16}{21} = \frac{32}{7}$

R $8 \div 10\frac{2}{3}$
 $\frac{8}{1} \div \frac{32}{3}$
 $\frac{1 \times 8}{1} \times \frac{3}{32} = \frac{3}{4}$

U $2\frac{2}{7} \div 10$
 $\frac{8 \times 2}{7} \times \frac{1}{10} = \frac{8}{35}$

D $8\frac{1}{3} \div 3$
 $\frac{25}{3} \div 3 = \frac{25}{9} = 2\frac{7}{9}$

H $3\frac{1}{3} \div 2\frac{2}{5}$
 $\frac{10}{3} \div \frac{12}{5}$
 $\frac{5 \times 10}{3} \times \frac{5}{12} = \frac{25}{18} = 1\frac{7}{18}$

P $5\frac{1}{2} \div 3\frac{1}{3} = 7\frac{1}{3}$
 $\frac{11}{2} \times \frac{3}{9} = \frac{11}{3}$

A $4\frac{7}{12} \div 3\frac{1}{7} = 1\frac{11}{24}$
 $\frac{35}{12} \div \frac{22}{7} \rightarrow$
 $5 \frac{35}{12} \times \frac{7}{22} = \frac{85}{24}$

G $3\frac{1}{2} \div 5$
 $\frac{7}{2} \times \frac{1}{5} = \frac{7}{10} = 0.7$

B B B 6 6

B	B
---	---

C $80 \div 7\frac{1}{2} = 7\frac{1}{2}$
 $\frac{80}{1} \div \frac{15}{2}$
 $16 \frac{80}{1} \times \frac{2}{15} = \frac{32}{3} = 10\frac{2}{3}$ cups

Fraction Review

p192, 193 H 12-26, 33

p209 #15-35, 43

p192

#12 $\frac{1}{8} \times \frac{3}{4} = \frac{3}{32}$ #13 $\frac{1}{5} \div \frac{1}{2} = \frac{2}{5}$ #14 $\frac{1}{4} \times \frac{3}{5} = \frac{3}{20}$ #15 $\frac{3}{8} \times \frac{2}{5} = \frac{3}{20}$
 #16 $\frac{1}{8} \times \frac{2}{9} = \frac{2}{72}$ #17 $\frac{1}{5} \times \frac{1}{8} = \frac{1}{40}$ #18 $\frac{1}{8} \times \frac{3}{5} = \frac{3}{40}$ #19 $\frac{2}{3} \times \frac{1}{2} = \frac{1}{3}$
 #20 $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$ #21 $\frac{1}{2} \times \frac{5}{8} = \frac{5}{16}$ #22 $\frac{1}{2} \times \frac{1}{5} = \frac{1}{10}$ #23 $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$
 #24 $3\frac{2}{3} \times 1 = 3\frac{2}{3}$ #25 $1\frac{1}{7} \times 4\frac{2}{3} = 7\frac{1}{3}$ #26 $5\frac{1}{3} \times \frac{4}{5} = 6\frac{2}{15}$ #27 $4\frac{4}{5}$
 $\frac{11}{12} \times \frac{1}{3} = \frac{11}{36}$ $\frac{11}{12} \times \frac{14}{3} = \frac{22}{3}$ $\frac{11}{3} \times \frac{5}{4} = \frac{55}{12}$

#33 $6 \times 2\frac{1}{4} = 12\frac{3}{4}$ $5 \times \frac{1}{2} = 2\frac{1}{2}$ $27 \div 5 = 5\frac{2}{5}$
 $3\frac{1}{2} \times \frac{2}{3} = 2\frac{2}{3}$ $\frac{5}{1} \times \frac{2}{2} = \frac{5}{2}$ $\frac{5}{2} \times \frac{5}{5} = \frac{25}{10} = 2\frac{1}{2}$ $\frac{32}{2} = 16$ inches $\frac{16}{3} \times \frac{4}{5} = \frac{64}{15} = 4\frac{4}{15}$ $3\frac{11}{15}$
 Don't reverse

p209

#15 $\frac{5}{6} \times \frac{6}{5} = 1$ #16 $3 = \frac{3}{1}$ #17 $\frac{4}{5} \times \frac{5}{4} = 1$ #18 $2\frac{2}{10} = \frac{22}{10} = 2\frac{1}{5}$ #19 $3\frac{3}{5} = \frac{18}{5}$
 #20 $\frac{2}{3} \div \frac{1}{2} = \frac{4}{3}$ #21 $\frac{2}{3} \div \frac{1}{4} = \frac{8}{3}$ #22 $\frac{5}{8} \div \frac{3}{5} = \frac{25}{24}$ #23 $\frac{1}{6} \div \frac{1}{4} = \frac{2}{3}$
 $\frac{2}{3} \times \frac{2}{1} = \frac{4}{3}$ $\frac{3}{5} \times \frac{4}{1} = \frac{12}{5}$ $\frac{5}{8} \times \frac{5}{3} = \frac{25}{24}$ $\frac{1}{6} \times \frac{4}{1} = \frac{2}{3}$
 #24 $6 \div \frac{1}{2} = 12$ #25 $\frac{3}{8} \div \frac{6}{7} = \frac{7}{16}$ #26 $\frac{4}{9} \div 2 = \frac{2}{9}$ #27 $\frac{5}{8} \div \frac{5}{8} = 1$
 $\frac{6}{1} \times \frac{2}{1} = 12$ $\frac{3}{8} \times \frac{7}{8} = \frac{21}{64}$ $\frac{4}{9} \times \frac{1}{9} = \frac{4}{81}$ $\frac{15}{24} \times \frac{2}{15} = \frac{2}{24} = \frac{1}{12}$
 #28 $\frac{3}{4} \div \frac{3}{4} = 1$ #29 $\frac{2}{3} \div 2\frac{1}{2} = \frac{4}{15}$ #30 $5 \div 1\frac{1}{3} = 3\frac{3}{4}$ #31 $2\frac{1}{4} \div \frac{2}{3} = 3\frac{3}{8}$
 $\frac{3}{4} \times \frac{4}{3} = 1$ $\frac{2}{3} \times \frac{5}{5} = \frac{2}{3}$ $\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$ $\frac{5}{1} \times \frac{3}{4} = \frac{15}{4}$ $\frac{9}{4} \times \frac{3}{2} = \frac{27}{8}$
 #32 $7\frac{2}{3} = 5\frac{1}{3}$ #33 $1\frac{1}{2} = 1\frac{1}{2}$ #34 $5\frac{1}{4} \div 3 = 1\frac{13}{12}$ #35 $4\frac{1}{2} \div 1\frac{2}{3} = 3\frac{1}{2}$
 $\frac{18}{12} \times \frac{3}{4} = \frac{27}{16}$ $\frac{3}{2} \times \frac{3}{2} = \frac{9}{4}$ $\frac{22}{4} \times \frac{1}{2} = \frac{11}{2}$ $\frac{18}{15} \times \frac{3}{2} = \frac{36}{10} = 3\frac{6}{10} = 3\frac{3}{5}$

#43 $12 \div \frac{3}{4} = 16$ lots

Percent Review

9/17

- means out of 100

- 15% = 15 out of 100 $\left| \frac{15}{100} \rightarrow \frac{3}{20} \right| .15$

All are same

- illustrate 15%

Fractions	Decimals	Percent's
$\frac{3}{8}$	.375	37.5%
$\frac{1}{5}$	.2	20%

- Frac \rightarrow Decimal
den / num

$$\frac{3}{8} \rightarrow \frac{375}{1000} = .375$$

- Dec \rightarrow frac

decimal place value Simplify

$$\frac{12}{10} \rightarrow \frac{6}{5} \rightarrow \frac{1}{5}$$

- Frac \rightarrow %

$$\text{Frac} = \frac{\text{num}}{100} \left(\begin{array}{l} \text{cross} \\ \text{products} \end{array} \right)$$

$$\frac{5}{8} \times \frac{x}{100} = 100 = 8 \times x$$

$$5 \cdot 100 = 8x$$

$$500 = 8x$$

$$x = 62.5$$

- % \rightarrow frac

$$\frac{\%}{100} - \text{Simplify}$$

$$\frac{120}{100} \rightarrow \frac{12}{10} \rightarrow \frac{6}{5} \rightarrow \frac{1}{5} \quad \left| \quad 13\frac{3}{4} \rightarrow \frac{55}{4} \rightarrow \frac{55}{100} \text{ Simp } \rightarrow \frac{11}{20} \right.$$

- Dec \rightarrow %

Move decimal 2 places right $.625 = 62.5\%$

- % \rightarrow Dec

Move decimal 2 left $120\% = 1.2$

Percent, Fractions, Decimals

5/18

Review

Long Way

$$9\frac{5}{6}\% \rightarrow \frac{9\frac{5}{6}}{100} \rightarrow \frac{9\frac{5}{6}}{100} \div 100 = \frac{59}{600}$$

Short Way

$$9\frac{5}{6}\% \rightarrow \frac{59}{6} \rightarrow \text{Add 20's} \rightarrow \frac{59}{600}$$

If you have a mixed # percent, change mixed to improper fraction, x denominator by 100; Simplify

$$\frac{1}{7} \overline{) .142857} \quad \frac{1}{7} = .142857$$

$$\frac{2}{7} \overline{) .285714} \quad \frac{2}{7} = .285714$$

$$\frac{3}{7} \overline{) .428571} \quad \frac{3}{7} = .428571$$

1. 20% of 40

$$\frac{1}{5} \text{ of } 40$$

$$\frac{1}{5} \times 40$$

$$\frac{1}{5} \times \frac{40}{1} = \frac{40}{5} = 8$$

2. $12\frac{1}{2}\%$ of 240

$$\frac{1}{8} \text{ of } 240$$

$$\frac{1}{8} \times \frac{240}{1} = \frac{240}{8} = 30$$

3. Estimate

19% of 20

20% of 20

$\frac{1}{5}$ of 20

$$\frac{1}{5} \times \frac{20}{1} = \frac{20}{5} = 4$$

About 4

4. Estimate Both

34% of 27

$33\frac{1}{3}\%$ of 27

$$\frac{1}{3} \times \frac{27}{1} = \frac{27}{3} = 9$$

About 9

Ratio

Buyer Beware

5/19

- comparison of 2 #

- example $\frac{2}{3}$

- $\frac{2}{3} = \frac{4}{6}$ = equal ratio or proportion

- $\frac{2}{3} = \frac{4}{6}$ cross product will be equal

- $\frac{5}{9} = \frac{10}{18}$

$$5 \times 18 = 90 \rightarrow \frac{5 \times 18}{91} \quad \frac{5 \times 2}{1} = \frac{10}{1} \rightarrow 10 = 10$$

Model

6% of \$3 = 18¢

% ratio = \$ ratio

$$\frac{6}{100} \times \frac{.18}{3.00} \quad \text{part} \quad \text{whole}$$

cross products are = so C

opposed

Formula
for part/whole

$$\frac{\text{part}}{\text{whole}} = \frac{\% \#}{100}$$

1. 15 is what % of 60 = 25%

$$\frac{15}{60} = \frac{x}{100}$$
$$5 \frac{15 \times 100}{60 \times 1} = 5 \frac{25}{1} \rightarrow 25\% = x$$

Buyer Beware Discounts

Discount

Original Price

% Discount

amount of discount (\$)

Sale Price = Original price - amount discount

Ex 12 is 30% of \$40

$$\frac{12}{40} = \frac{30}{100}$$

or say \rightarrow

$$\frac{\text{amount of discount}}{\text{original price}} = \frac{\% \text{ discount}}{100}$$

Write this
 \rightarrow each time

$$\frac{\text{amt disc.}}{\text{original price}} = \frac{\%}{100}$$

1. Buy a TV 24" Toshiba for \$280 for 40% off
find amt disc + sale price

$$\frac{x}{280} = \frac{40}{100} \rightarrow \frac{280 \times 40}{100} = \frac{112}{1} \rightarrow \$112 \text{ amount discount}$$

280	Orig Price
-112	amt
168	

Sale Price \rightarrow 168

Buyer Beware Sales Tax

5/24

Amount of tax
Percent of Tax
Price of Item
Final Cost

Pencil Sharpener

Price: \$15

% tax: 6%

Final Amount of tax = 90¢

Final Cost = \$15.90

Chia Pet

Price: \$20

% disc 60%

% tax 10%

Find Amt disc

Sale Price

Amt tax

Final Cost

$$\frac{\text{Amt Tax}}{\text{Price}} = \frac{\% \text{ tax}}{100}$$

$$\frac{x}{15} = \frac{6}{100} \quad \frac{6 \times 15}{100} = \frac{18}{20} \rightarrow \frac{9}{10} = \frac{90}{100} = \text{Amt Tax}$$

15.00 Price

+ .90 Amt. Tax

15.90 = Final Cost

$$\frac{\text{Amt disc}}{\text{Price}} = \frac{\%}{100}$$

$$\frac{x}{20} = \frac{60}{100}$$

$$\frac{20 \times 60}{100} = 12 = \text{Amt disc}$$

20 org Price

- 12 Amt Disc

\$ 8 Sale Price

$$\frac{\text{Amt tax}}{\text{Price}} = \frac{\% \text{ tax}}{100}$$

$$\frac{x}{8} = \frac{10}{100}$$

$$\frac{8 \times 10}{100} = \frac{80}{100} = \frac{8}{10} = \frac{80}{100} = \text{80¢ tax}$$

Price Amt tax

8 + .80

\$8.80 Final Cost

Buyer Beware

Mark UP

5/25

Store Owners Price

Amt. Markup

% Markup

Selling Price

$$\frac{\text{Amt Markup}}{\text{Store Price}} = \frac{\% \text{ Markup}}{100}$$

Shoes = Store \$15

Markup 200%

Find Amt Mark = \$30

Selling Price:

$$\frac{x}{15} = \frac{200}{100} \Rightarrow \frac{200 \times 15}{100} = \frac{30}{1}$$

Amt Markup = \$30

15 Store

+30 Markup

\$45 Final Price

HW #2 Store \$350

Markup 150%

Find Amt Markup = \$52.50

Selling Price 875

$$\frac{\text{Amt Markup}}{\text{Store Price}} = \frac{\% \text{ Mark}}{100}$$

$$\frac{x}{350} = \frac{150}{100}$$

$$\frac{150 \times 350}{100} = \frac{5250}{100} = 52.50$$

\$875

$$\frac{35}{100} \times 150 = \frac{5250}{100} = 52.50$$

Baseball bat = Store Price \$150

% Markup - 225%

% Tax = 6%

Find: Amt Markup

- O Price

- Amt Tax

- F Price

$$\frac{112.50}{150} = \frac{\text{Amt Mar}}{100} \Rightarrow \frac{112.50 \times 100}{150} = 75$$

$$\frac{\text{Amt Mark}}{\text{S Price}} = \frac{\% \text{ Mark}}{100} \Rightarrow \frac{x}{150} = \frac{225}{100} \Rightarrow x = 337.50$$

$$\frac{\text{Amt Tax}}{\text{S Price}} = \frac{\% \text{ Mark}}{100} \Rightarrow \frac{x}{162.50} = \frac{6}{100} \Rightarrow x = 9.75$$

162.50 Sold Price

9.75 Tax

Final Price

\$722.5 Final

$$162.50 \times 3 = 487.50$$

$$\frac{225}{100} \times 150 = 337.50$$

x2

1

Buyer Beware Review

(4)
(6) Getting Better

- #1 8% Tax, \$135, Find Amt. Tax
- #2 O Price \$300, S Price \$228 Find % Disc
- #3 O Price \$82, % Disc 18% Find Amt Disc
- #4 % Disc 32%, Amt Disc 76.82, Find O Price *not Mark.*
- #5 O Price \$220, 45% Disc, 9% tax, Find Amt Disc, S Price, Amt tax, F price
- #6 B Price \$265, 175% Mark, 8% tax Find Amt Mark, O price, Amt tax, F price

#1

$\frac{\text{Amt Tax}}{\text{S Price}} = \frac{\% \text{ tax}}{100}$	$\frac{x}{135} = \frac{8}{100}$	$135 \times \frac{8}{100} = 10.8$	#5 $\frac{\text{Amt Disc}}{\text{O Price}} = \frac{\% \text{ Disc}}{100}$	$\frac{x}{220} = \frac{45}{100}$	$220 \times \frac{45}{100} = 99$	$220 - 99 = 121$	$\frac{121}{100} = 1.21$	$121 \times 9 = 1089$	$1089 + 121 = 1210$
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Handwritten notes: 27 - 82 = 1089, 100 805, 54, 5, 10.8, 319 - S Price, 319, 9, 319, 100, 319, 287.1

#2

$\frac{300 - 228}{300} = \frac{\% \text{ Disc}}{100}$	$\frac{72}{300} = \frac{x}{100}$	$72 \times \frac{100}{300} = 24$	#6 $\frac{\text{Mark Amt}}{\text{B Price}} = \frac{\text{Mark \%}}{100}$	$\frac{x}{265} = \frac{175}{100}$	$265 \times \frac{175}{100} = 463.75$	$463.75 + 265 = 728.75$	$728.75 \times 8\% = 58.3$	$728.75 + 58.3 = 787.05$
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Handwritten notes: 24, 3772, 24% Disc, 131.89, 10.89, 28.71 Tax, 53 35, 463.75 Mark, 728.75, 53, 35, 728.75, 1265, 1590, 1855, 4

#3

$\frac{\text{Amt Disc}}{\text{O Price}} = \frac{\% \text{ Disc}}{100}$	$\frac{x}{82} = \frac{18}{100}$	$82 \times \frac{18}{100} = 14.76$	$\frac{728.75}{100} = \frac{x}{100}$	$728.75 \times 8 = 5830.0$	$5830.0 + 728.75 = 6558.75$	$6558.75 \times 3 = 19676.25$	$19676.25 + 6558.75 = 26235$
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Handwritten notes: 14.76, Amt Disc 14.76, 728.75, 58.3, 787.05, 5830.0, 6558.75, 19676.25, 26235

#4

$\frac{\text{Amt Disc}}{\text{O Price}} = \frac{\% \text{ Disc}}{100}$	$\frac{76.82}{100} = \frac{x}{32}$	$76.82 \times \frac{32}{100} = 24.5824$	$\frac{728.75}{100} = \frac{x}{100}$	$728.75 \times 8 = 5830.0$	$5830.0 + 728.75 = 6558.75$	$6558.75 \times 3 = 19676.25$	$19676.25 + 6558.75 = 26235$
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Handwritten notes: 24.5824, O Price 2402.5, 8779.62, 38440, 1153760, 192200, 8

divide correctly

Review for Finals

5/4

P1+2

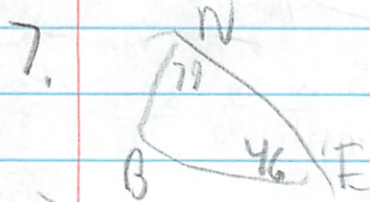
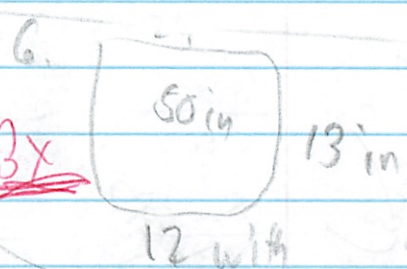
1. $7 \times 5 - 3 \times 4 + 3$
 $35 - 12 + 3$
 $23 + 3$
 (26)

2. $\begin{array}{r} 40000 \\ - 7800 \\ \hline 32200 \\ + 6500 \\ \hline 38700 \end{array}$ $\begin{array}{r} 6500 \\ + 430 \\ \hline 6930 \end{array}$
 (38770)

3. Yes

4. $a - 8 = 16$
 (-2)

5. $\begin{array}{r} 7005 \\ - 588 \\ \hline 6417 \end{array}$



#8. $\begin{array}{r} 130 \\ - 79 \\ \hline 51 \\ - 46 \\ \hline (55) \end{array}$

$\begin{array}{r} 3.14 \\ \times 8 \\ \hline 2512 \\ + 2512 \\ \hline 5624 \\ + 25120 \\ \hline 125600 \\ + 5024000 \\ \hline 631074 \\ \times 15 \\ \hline 3155072 \\ + 631074 \\ \hline 9465216 \end{array}$

#9. $-4/5 \mid -5/4 \mid = m$

#11. (31.4) #12. $4y - 17 = 7y - 2$

$4y - 15 = 7y$
 $-15 = 3y$
 $-5 = y$

#13. $(73 - 30) = +$
 $+ \times 7.5$

#14. $\begin{array}{r} 180 \\ - 107 \\ \hline (73) \end{array}$ #17

12 ft. 144 sq ft 12×12 $12 \times 4 = 48$

#18

(9465216)

Review for Finals

p2

5/4

#20 $\frac{8}{50} \frac{6}{100} \rightarrow 16\%$ #21 $7+3=21$ 22 $50 \overline{) 1106}$
 $\underline{100}$
 106
 $\underline{500}$
 506

27 40 lbs 6080 $\frac{40}{x} \frac{60}{y} \frac{20}{z} \rightarrow 148 \text{ lbs}$

29 $\frac{180}{748} \frac{31}{4} \frac{32}{1}$ 1 2 3 4 5 1 1 1 2 2 2 3 3 3 3
 $\underline{180}$ 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5
 132 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

33 $\frac{3.6}{9} \frac{5.6}{y} \frac{4}{z}$ 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5
 $\frac{2.8}{3} \frac{3}{x} \frac{4}{y} \frac{5}{z}$ $\frac{12}{2.2} \frac{16.8}{1.8}$
 $\frac{3.6 \times 1.2}{1.2}$ $\frac{16.8}{1.2}$

34 $\frac{1.5}{600} \frac{5.5}{y} \frac{400}{x} \times 5.5$ 2200 $\frac{1.5}{x}$

35 $\frac{65}{480}$ 47-4 44 40
 $\frac{16}{6} \frac{65}{6} \frac{70}{6}$

39 $\frac{480}{120} \frac{360}{960}$ 40R, 455

40 $a=8$
 $b=16$
 $h=12$

41 $\frac{2045}{700} \frac{42}{9} \frac{4}{13}$
 $\underline{1400}$ 5 8
 1255 7 8

43 $\frac{128}{256} \frac{32}{256}$
 $\times 2$ 8 | 256

44 $\frac{230}{5} \frac{25}{725}$ 46 $\frac{2}{1} \frac{16}{2} \frac{8}{3} \frac{4(2)}{45}$

47 $\frac{25}{25} \frac{125}{125} \frac{500}{500}$
 $\underline{25}$
 125
 500
 625

48 $\frac{32}{82} \frac{50}{144}$ 50 $\frac{3}{14} \frac{8}{112} \frac{75}{360}$

51 $-7k - 19 = 9$
 $-7k - 19 + 19 = 9 + 19$
 $-7k = 28$
 $-k = 4$
 $k = -4$

52 $8m + 14 = 17m + 4$
 $8m = 17m + 4$
 $-9m = 18$
 $-m = 2$
 $m = -2$

