Bell Ringer

Thursday 5/9

1. You have a bag of marbles. There are 4 white 3 pink and 3 yellow. Calculate the following probabilities:

WWWW
PPP
YY

With Replacement:

a. P(white, white) = $\frac{4}{10} \cdot \frac{4}{10} = \frac{2}{5} \cdot \frac{2}{5} = \frac{4}{25}$

In

b. P(yellow, not yellow) = $\frac{3}{10} \cdot \frac{7}{10} = \frac{21}{100} = 21\%$

Without Replacement:

c. P(white, white) = $\frac{4}{10} \cdot \frac{3}{9} = \frac{12}{90} = \frac{6}{45}$ $\frac{2}{15}$

Dep

d. P(yellow, not yellow) = $\frac{3}{10} \cdot \frac{7}{9} = \frac{7}{30}$

2. You draw one card from a standard deck of cards.

a. P(red and black) =

0

b. P(face card and black) = $\frac{6}{52} = \frac{3}{26}$

c. P(between 2 and 5) = $\frac{8}{52} = \frac{4}{26} = \frac{2}{13}$

correct 14.6

HW key

1 3/3 total

Section 14.6

Categorical Data

Name: Key

Hour: ___

Part I

What's your favorite color?

When asked this question, the most popular color named was blue.

Symbols

Key:
Male = M Female = F
Blue = B Not Blue = N

Sample size = 200

P(B) = 84/200

P(M) = 64/200

P(F|B) = 48/84

P(B|F) = $\frac{48}{136}$

P(M∩B) = $\frac{36}{200}$

P(M∪B) = $\frac{64}{200} + \frac{84}{200} - \frac{36}{200} = \frac{112}{200}$

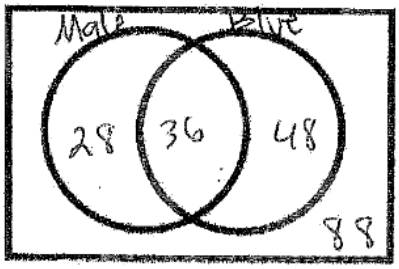
1/2 pt

2-way Table

	Blue	Not Blue	Total
Male	36	28	64
Female	48	88	136
Total	84	116	200

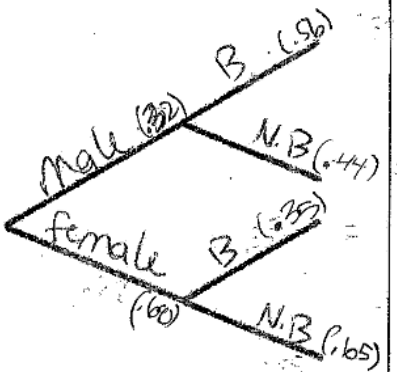
1/2 pt

Venn Diagram



1/2 pt

Tree Diagram



2 pts / page

2 pts

Part II

Are you a lefty or a righty?

Symbols

Key:
Male = M Female = F
Lefty = L Righty = R

Sample size = 100

P(L) = $\frac{10}{100}$

P(M) = $\frac{50}{100}$

P(F) = $\frac{50}{100}$

P(L|F) = $\frac{3}{50}$

P(L|M) = $\frac{7}{50}$

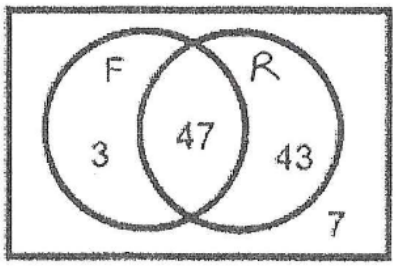
In this sample are there equal proportions of males and females who are left handed? Explain.

No

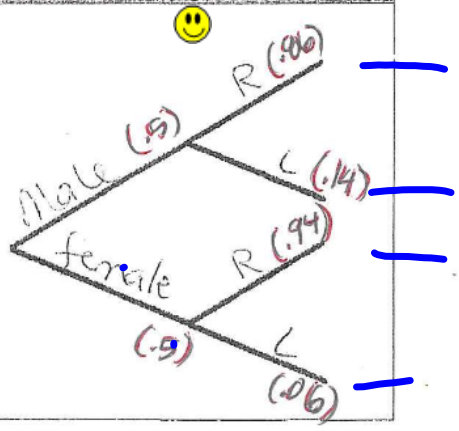
2-way Table

	Lefty	Righty	Total
Male	7	43	50
Female	3	47	50
Total	10	90	100

Venn Diagram



Tree Diagram



Part III

Do you eat breakfast or not?

Symbols

Key:
Male = M Female = F
Eats Breakfast = E Doesn't Eat Breakfast = D

Sample size =

$P(E) = \frac{307}{600} = 51.2\%$

$P(E|M) = \frac{216}{372} = \frac{18}{31}$ or 58.1%

$P(E \cap M) \frac{216}{600} = \frac{9}{25}$ or 36%

$P(E|F) = \frac{91}{228} = 39.9\%$

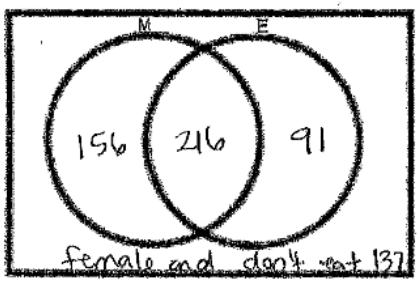
$P(E \cap F) = \frac{91}{600} = 15.2\%$

2-way Table

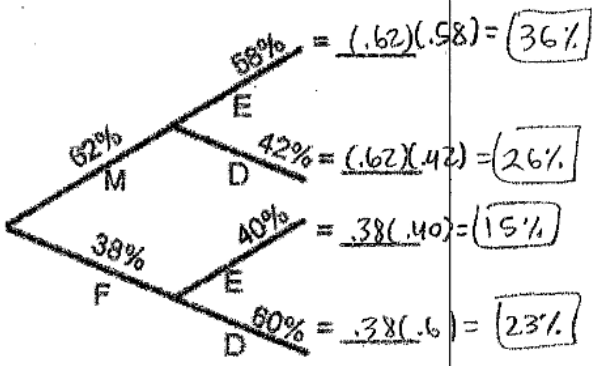
Round to the nearest whole #

	Eats	Doesn't	Total
Male	372(.58) = 216	156	600(.62) = 372
Female	228(.4) = 91	137	228
Total	307	293	600

Venn Diagram



Tree Diagram



13.1 due tomorrow - questions?

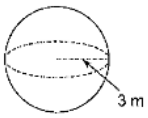
odds

Math 2C Name_____ ID: 1

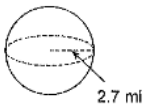
13.1: Volume Date_____ Period____

Find the volume of each figure. Round your answers to the nearest hundredth, if necessary. Leave your answers in terms of π for answers that contain π.

1)



2)



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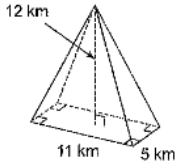

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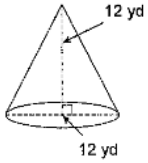

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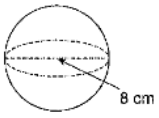

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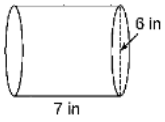

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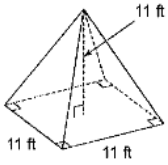

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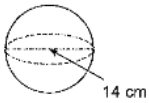

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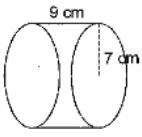

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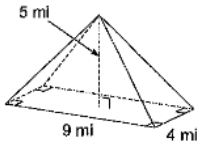

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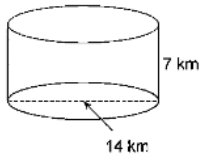

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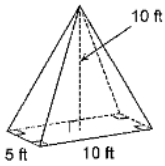

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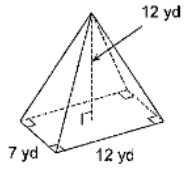

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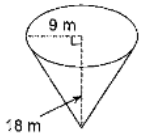

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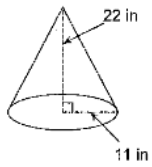

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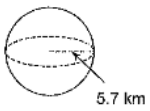

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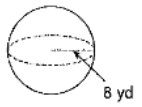

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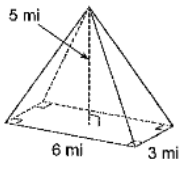

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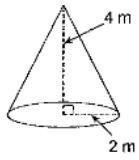

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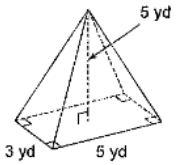


Review...

	Sport Utility Vehicle (SUV)	Sports Car	Totals
male	21	39	60
female	135	45	180
Totals	156	84	240

MathBits.com

What percent of females like SUVs?

$\frac{135}{180} = 75\%$

What percent of people prefer sports cars?

$\frac{84}{240} = 35\%$

What percent of those who prefer sports cars are female?

$\frac{45}{84} = 53.6\%$

What percent of people are males who prefer SUVS?

$\frac{21}{240}$ 8.8%

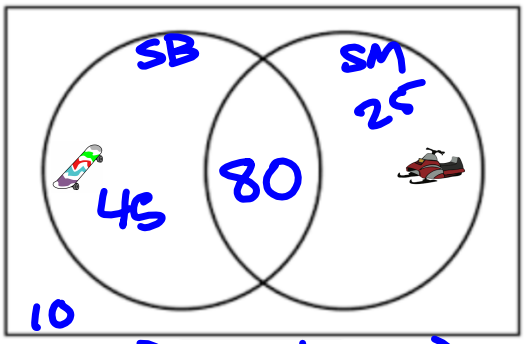
What % of males prefer SUVs?

$\frac{21}{60} = 35\%$

Create a venn diagram, and fill in the table to answer the questions

160 people were surveyed - 105 like snowmobiles - 10 don't like snowmobiles or skateboards

80 like snowmobiles and skateboards



	SB	SB'	Total
SM	80	25	105
SM'	45	10	55
Total	125	35	160

P(SB | SM')

45/55

P(SM | SB)

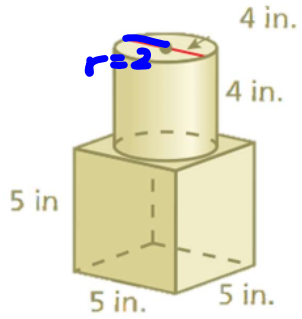
80/125

(Discuss exact vs rounded)

Composite Volume Guided Notes

Name_____

Example 1



What two shapes can this break into?

Cylinder Cube

What are the formulas for these two shapes?

$\pi r^2 h$ & $l \cdot w \cdot h$

Volume of shape 1:

$\pi 2^2 \cdot 4 \approx 50.3$

$= 16\pi$ in^3

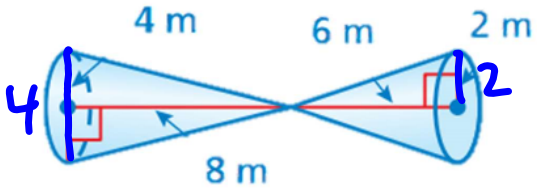
Volume of shape 2:

$5 \cdot 5 \cdot 5 = 125$ in^3

Exact $16\pi + 125$ in^3

Total Volume: 175.3 in^3

Example 2



What two shapes can this break into?

cones

What are the formulas for these two shapes?

$\frac{\pi r^2 h}{3}$

Volume of shape 1:

$\frac{\pi 2^2 8}{3} = \frac{32\pi}{3} = 33.5 m^3$

Volume of shape 2:

$\frac{24\pi}{3}$

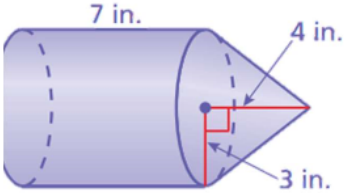
$\frac{\pi 2^2 6}{3} = 8\pi \approx 25.1 m^3$

19.67π

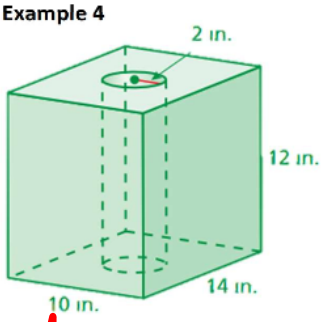
Total Volume: 58.6 m^3

$\frac{58\pi}{3}\pi$ m^3

Example 3

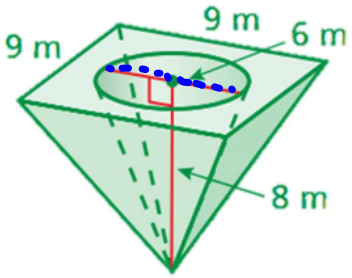


Example 4



Cube - Cylinder

Example 5



Pyramid - cone

$\frac{l \cdot w \cdot h}{3} - \frac{\pi r^2 h}{3}$

$\frac{9 \cdot 9 \cdot 8}{3}$ $\frac{\pi 3^2 8}{3} = 75.4$ rounded

24π

$216 m^3 - 75.4 \approx 140.6 m^3$

$216 - 24\pi m^3$

due Monday - quiz tomorrow
skip #4, 6, 10, 12, 13, 14

Composite Volumes Sec. 13.2 Name:_____

Packaging and Shipping. Tennis balls have a 3-inch diameter are sold in cans of three. The can is a cylinder.

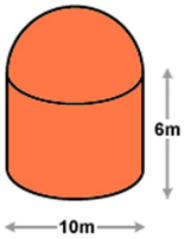
1. What is the volume of one tennis ball?

2. What is the internal volume (capacity) of the cylinder?

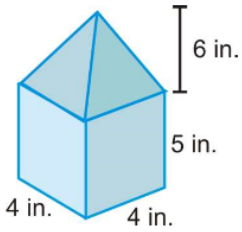
3. Assume the balls touch the can on the sides, top and bottom. How much space is left over?

Find the volume of each composite shape.

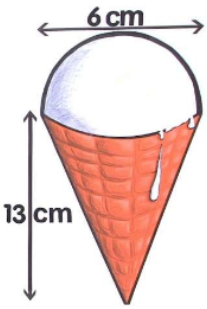
4.



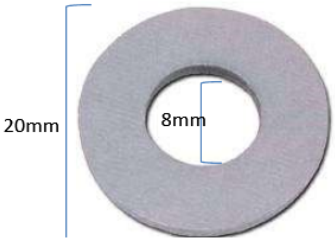
5.



6. The following ice cream cone is filled all the way to the bottom with ice cream. Find the volume of the ice cream.



7. Find the volume of the following metal washer. It is 0.5mm thick.



Nutrition. The whole cake is 9 cm high and 20 cm across. Each layer of cake is 2 cm thick, and each layer is separated by 1 cm of frosting.

8. What is the total volume of the entire cake (including the missing piece)?

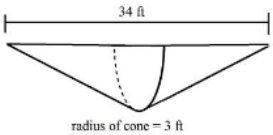
9. What is the volume of one layer of frosting (including the missing piece)?

10. What is the volume of all three layers of frosting? (including the missing piece)?

11. What is the volume of one layer of plain cake (without frosting) (including the missing piece)?

12. What is the volume of all three layers of plain cake, without the frosting (including the missing piece)?

13. A cone has been split vertically down the center and the two pieces have been placed together at their bases to make a "canoe" shape. The length of the radius is 3 ft and the length of the canoe shape from end to end is 34 ft. What is the volume of the figure?



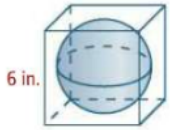
14. **Composite Figures** Use the diagram of the backpack at the right.

a. What two figures approximate the shape of the backpack?

b. What is the volume of the backpack in terms of π?

c. What is the volume of the backpack to the nearest cubic inch?

15. The sphere at the right fits snugly inside a cube with 6-in. edges. What is the approximate volume of the space between the sphere and the cube?



(A) 28.3 in.^{3} (C) 102.9 in.^{3}

(B) 76.5 in.^{3} (D) 113.1 in.^{3}