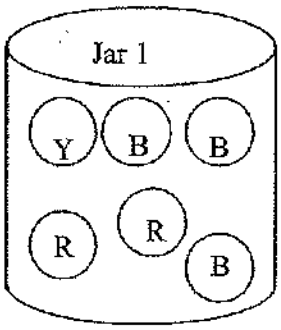
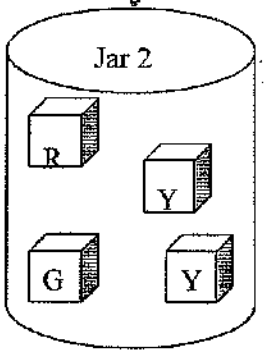
AMDM Benchmark 2 Test Review Name: Key Date:





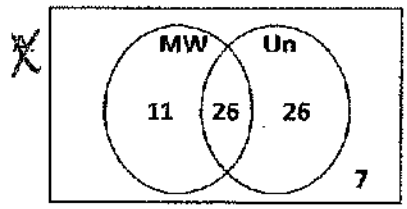
1. Jar 1 has 6 marbles in it. Jar 2 has 4 cubes in it. Find the probability of drawing out a blue marble and a green cube without looking.

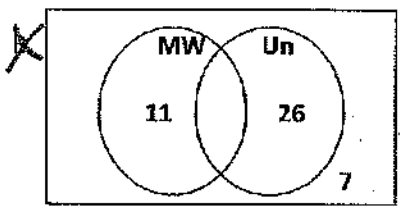
P(Blue) • P(Green)
$\frac{3}{6} \cdot \frac{1}{4} = \frac{3}{24} = \frac{1}{8}$

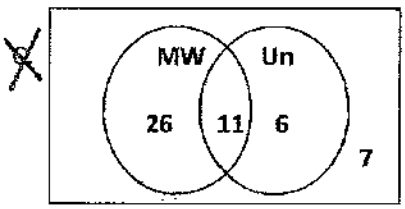
2. You are doing a project and need to resize the picture of Chuck Norris that's to the right of this question. You want to keep the aspect ratio the same so that you don't change Chuck Norris. Where on the picture do you need to click and drag to keep Chuck's aspect ratio the same? (Before you ask, "You don't change Chuck Norris' aspect ratio, he changes yours" might be true, but it is not the correct answer on this question!)

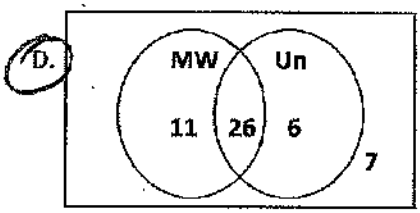
A. Center of picture
B. Corner
C. Top
D. Side

3. 50 students in Mr. Price's class received Playstation 3 games for Christmas. He polled the students to see if any of them received Modern Warfare 2 (MW) or Uncharted 2 (Un). The response was 11 received Modern Warfare 2, 26 received both and 7 didn't get either game. Which of the following Venn Diagrams correctly shows the data from the classes?







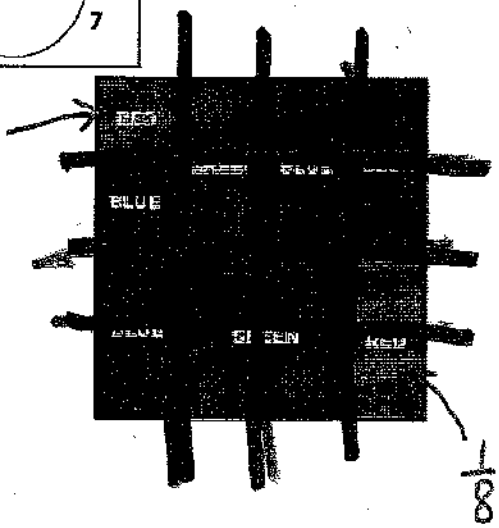


11+26+6+7=50

4. You toss a coin without looking at the board to the right of this question. Looking at the board as an area model, what are the chances that your coin lands on a red section?

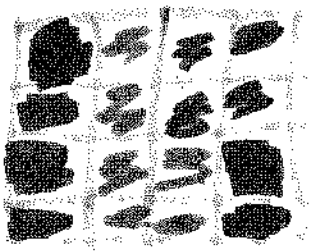
A. 25%
B. 18.8%
C. 12.5%
D. 33%

$\frac{1}{16} + \frac{1}{8} = \frac{3}{16}$



$\frac{1}{16}$

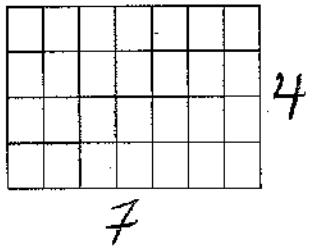
$\frac{1}{8}$



5. Find the aspect ratio of this rectangle.

A. 4:4
B. 7:4
C. 7:7
D. None of the above

Aspect Ratio: W:H



6. The combo meal sale is a huge success. They release some data showing their percentages of how often items were chosen:

Sandwich	Side	Drink
Jr. Bacon Cheeseburger (65%)	Fries (63%)	Coke (33%)
Crispy Chicken Sandwich (35%)	Salad (17%)	Diet Coke (18%)
	Baked Potato (20%)	Dr. Pepper (26%)
		Sprite (23%)

(.65)(.63)(.18)+(.65)(.20)(.18)

So based on these sales numbers, what are the odds that the next customer orders a Jr. Bacon Cheeseburger, fries or potato, and a Diet coke?

A. 14%
B. 10.6%
C. 9.7%
D. 65%

(Jr Bacon) x (Fries + Potato) x (Diet Coke)

0.65 x 0.83 x 0.18 = 0.0971 ≈ 9.7%

In his first season with the Braves, Boone Logan set a record for slugging average that would stand for more than 20 years. In 2002, Logan pounded 110 hits in 428 at-bats. His hits consisted of 63 singles, 38 doubles, 6 triples, and 45 home runs, resulting in a total base count of (63*1)+(38*2)+(6*3)+(45*4)=400. When his total number of bases (400) is divided by his total at-bats (428), the result is .934, his slugging percentage for the season. This record was broken in 2005 by Alex Rodriguez, who had 451 total bases in 476 at-bats for a slugging average of.947.

S=96 D=24 T=8 HR=39 AB=367

7. Find the slugging average for a player with the statistics listed above:

A. .524
B. .779
C. .883
D. .736
E. Not here

$$\frac{(1\times 96)+(2\times 24)+(3\times 8)+(4\times 39)}{367} = \frac{324}{367} \approx 0.883$$

Use the following information to answer questions 8-9:

Actual mileage = *k* • odometer reading (mileage)

Actual speed = *k* • speedometer reading (miles per hour)

***Where k* = circumference of bigger tire / circumference of factory-installed tire** $= \frac{123}{93} = \frac{1.3226}{1}$

8. If the odometer reading is 30,000 miles on your car and you have tires with a circumference of 123 inches, you have actually traveled _____ miles. (The factory-installed tires circumference is 93 inches.)

A. 30,000
B. 39,677
C. 27,000
D. 33,225

30000X1.3226 =

9. If the speedometer reading is 60 mph on your car and you have tires with a circumference of 123 inches, you are actually traveling _____ mph. (Factory-installed tires circumference is 93 inches.)

A. 66.45
B. 79.35
C. 45.17
D. 64.45

60X1.3226

10. It is Joe Blow's first season of playing baseball with the Marlins. He has had 280 at-bats. So far he has 51 singles, 12 doubles, 29 triples and 7 homeruns. How many more triples, doubles, singles, and homeruns would Joe need to have a .759 slugging average?

A. 1 single, 2 doubles, 3 triples, 4 homeruns
B. 4 singles, 3 doubles, 2 triples, 5 homeruns
C. 4 singles, 6 doubles, 1 triple, 5 homeruns
D. 6 singles, 1 double, 5 triples, 0 homeruns
E. 1 singles, 1 double, 1 triples, 0 homeruns

Too small → B
Too big → C

11. Roshid plays for the NY Mets, and is the MVP. He has twice as many homeruns as triples. His total at-bats is 754. He has 154 singles and 47 doubles. He has a total of 306 hits. What is Rashid's slugging average?

HR = 2T

$154+47+T+HR=306$
$201+T+2T=306$
$3T=105$
$T=35$
$HR=70$

A. 0.734
B. 0.964
C. 0.590
D. 0.839
E. The correct answer is not here.

$\frac{(154\times1)+(47\times2)+(35\times3)+(70\times4)}{754}$

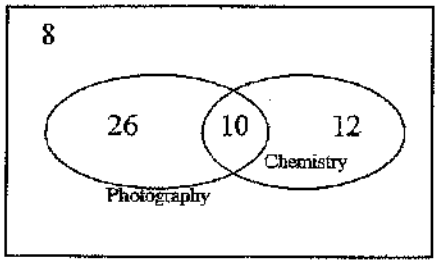
12. Jason has a spinner game with three spinners, each divided into three equal parts of red, green, and blue. What is the probability of getting green on all three spinners?

$P(\text{green})=\frac{1}{3}=0.33$

A. 3.6%
B. 6.3%
C. 4.2%
D. 4.7%
E. 9%.

$(0.33)\times(0.33)\times(0.33)=$
$0.0359\approx3.6\%$

13. What is the percentage of students taking both courses?



$\frac{\text{Both}}{\text{Total}}=\frac{10}{8+26+10+12}=\frac{10}{56}$
$=17.85\%$

14. You are hired to estimate how many people attend a celebration at Alamo Plaza. You mark off a five foot by five foot square to help make your estimation. Which of the following situations might distort your estimation?

Too big → A

A. The entire offensive line of the Dallas Cowboys is in your square
B. There is a class of kindergartners in your square.
C. There are some mothers with babies in strollers.
D. All of the above can distort your estimation.

15. There are about 6,600,000,000 people living in the world. About how many males are there?

A. 6,600,000,000
B. 3,000,000,000
C. 100,000,000
D. 1,000

About half are male.

16. How many phone numbers are possible in the (512) area code if:

For the form ABC-XXXX, A is restricted to 2-9. X, B, and C can be any digit 0-9.

A. 8,000,000
B. 9,000,000
C. 800,000
D. 900,000

$8\cdot10\cdot10\cdot10\cdot10\cdot10\cdot10$
A B C X X X X

17. How many area codes would be possible if all three digits could be any value 1-9?

A. 1,000
B. 729
C. 30
D. 27

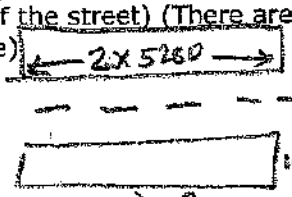
$\frac{9}{1-9}\cdot\frac{9}{1-9}\cdot\frac{9}{1-9}=729$

18. The aspect ratio of tire P245/70R16 is

A. 245
B. 70
C. 16
D. 5/7

5280 ft = 1 mile

19. You are standing amongst a crowd that is 10 feet deep and 2 miles long at a parade. You want to estimate how many people are there. If each person occupies 2 square feet, estimate the size of the crowd watching the parade along a 2 mile stretch. (Both sides of the street) (There are 5,280 feet in one mile)



A. 52,800
B. 105,600
C. 53,000
D. 105,000

$(2 \times 5280 \times 20)\,ft^2 \times \frac{1\ person}{2\ ft^2}$

The aspect ratio of a rectangular shape is its length (L) divided by its width (W). It is expressed as L:W or L/W

20. The dimensions of a desk are 25in long and 20in wide. What is the aspect ratio of the desk?

A. 25:20
B. 20:25
C. 20:20
D. 25:25
E. None of the above

$\frac{L}{W} = \frac{25}{20}$ OR 25:20

21. If the aspect ratio of a chalkboard is 8:6 and the width is 9 in, what is the length of the eraser?

A. 6in.
B. 7 in.
C. 12 in.
D. 14in.
E. None of the above

$\frac{L}{W} : \frac{8}{6} = \frac{x}{9}$

$9(8) = 6x$

$72 = 6x$

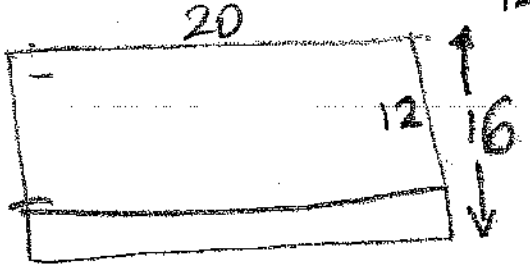
$12 = x$

22. A television with a 5:4 pillar boxed image is displayed on a 20:12 ratio screen. What percent of the screen's area is occupied by the image?

A. 25%
B. 12%
C. 33%
D. 75%
E. None of the above

$\frac{L}{W} : \frac{5}{4} = \frac{20}{16}$

$\frac{20}{12}$



$\frac{20 \times 12}{20 \times 16} = 0.75$

Use the following for #23-25.

System 1	System 2
Test Average- 50%	Test Average- 60%
Final Exam Grade- 25%	Final Exam Grade-20%
Homework- 15%	Homework- 10%
Class Participation- 10%	Class Participation- 10%

- Test Average- 85
- Final Exam Grade- 72
- Homework – 92
- Class Participation- 95

System 1: $(85 \times 0.5) + (72 \times 0.25) + (92 \times 0.15) + (95 \times 0.1) = 83.8$

23. Below are your values. Which grading system gives you the greatest average?

System 2: $(85 \times 0.6) + (72 \times 0.2) + (92 \times 0.1) + (95 \times 0.1) = 84.1$

A. System 1
B. System 2
C. Both are equal
D. None of the above

24. If you scored 10 points higher on a homework assignment, how would that affect your final grade?

A. Your grade would remain the same
B. Your grade would slightly decrease
C. Your grade would slightly increase
D. All of the above
E. None of the above

25. Which grading system is the best benefited if you scored a 75 on your Test Average?

A. System 1 b/c of the lower Test Average Weight
B. System 2
C. Both systems remain equal
D. None of the above

26. Which set of singles, doubles, triples, and home runs would be greater than the slugging average of .500 if you have 400 at-bats? Answers are in order (singles, doubles, triples, and homeruns)

A. 80, 20, 10, 10 — 0.475
B. 90, 10, 6, 14 — 0.460
C. 20, 40, 4, 56 — 0.840
D. 96, 6, 10, 8 — 0.425
E. Not here

A. $\frac{(1 \times 80) + (2 \times 20) + (3 \times 10) + (4 \times 10)}{400} = 0.475$

B. $\frac{(1 \times 90) + (2 \times 10) + (3 \times 6) + (4 \times 14)}{400} = 0.$

C. 0.84 $\frac{(1 \times 20) + (2 \times 40) + (3 \times 4) + (4 \times 56)}{400} = 0.84$