

AMDM Unit 1 - 3 Checkpoint Review

Key

Shari gets an allowance of \$20 per week. She has decided she needs more money, so she has made a deal with her mother in hopes of increasing her weekly allowance. She proposes that she will throw a dart at the dart board. If she hits the board, she gets the original \$20 plus another shot at the dartboard for an additional \$20. If she misses the first throw, she only gets \$10 for the week. Shari hits the dart board 65% of the time.

1. Shari's mom is worried about how often she will be giving her daughter \$40 a week. Given Shari's stats, how many weeks will her mom be out \$40?

$$.65(.65) = .4225 \times 52 = 21.97 \approx \boxed{22 \text{ weeks}}$$

Use the following information for questions 2-3.

Morning classes will be 1st - 5th

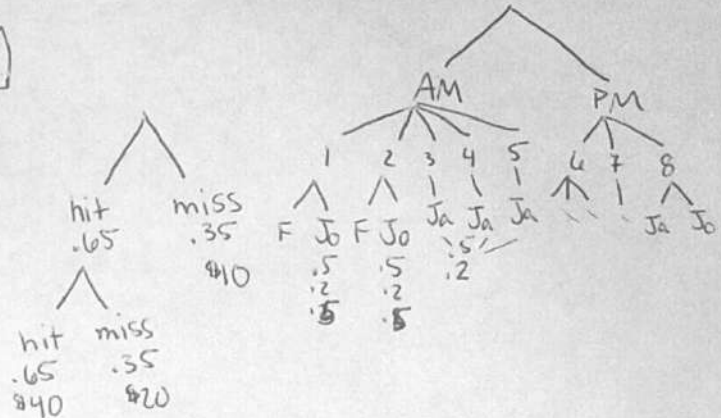
Afternoon classes 6th - 8th

The following are science classes.

James- 3rd, 4th, 5th, 6th, 8th

Fowler- 1st, 2nd, 6th, 7th

Josey- 1st, 2nd, 6th, 8th



2. Before deciding on a morning or afternoon class, Lisa remembering she wants to take her math class during 4th period. What is the probability she will be scheduled a math class during this time?

$$.5(.2) = \boxed{.1 = 10\%}$$

3. All of the afternoon science classes are filled & Lisa has a decision to take either Mrs. James or Mrs. Josey in the morning, what is the probability of Lisa taking a Science class in the morning with James or Josey?

$$2(.5 \times .2 \times .5) + 3(.5 \times .2) = .1 + .3 = .4$$

$$.1 + .3 = .4 = \boxed{40\%}$$

Use the following information for questions 4-5.

You are thrown 4 fastballs and you must hit them in a fair zone to count.

- If you hit all 4 in a fair zone you win the big prize
- If you hit 3 in a fair zone you win a medium size prize
- If you hit 1 or 2 in the fair zone you get the small prize
- If you hit zero you do not win and receive no prize.

4. What is the probability you will win the big prize?

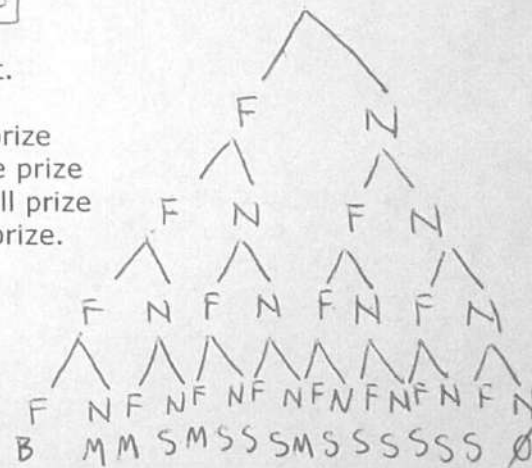
$$1/16$$

5. What is the probability of getting the small prize?

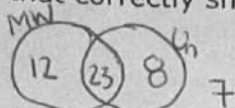
$$10/16 = 5/8$$

6. Which of the following is a good definition for Compound Probability?

- a) Two events that do affect the other's chance of occurring.
- b) Probability that takes into account a given event occurring.
- c) Probability from a chance experiment that has only 2 outcomes.
- d) The average of a probability distribution.



7. 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 12 received Modern Warfare 2, 23 received both and 8 didn't get either game. Draw a Venn Diagram that correctly shows the data from the classes.



8. 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%)

So based on these sales numbers, what are the odds that the next customer orders a Crispy Chicken Sandwich, fries or potato, and a Diet Coke?

$$.35(.63 + .20) \cdot .18 = .05229 = 5.2\%$$

9. If the odometer reading is 50,000 miles on your car and you have tires with a circumference of 103 inches, you have actually traveled _____ miles. (The factory-installed tires circumference is 93 inches.)

$$\frac{103}{93} = 1.108 \quad 50,000(1.108) = 55,400 \text{ miles}$$

10. It is Joe Blow's first season of playing baseball with the Marlins. He has had 350 at-bats resulting in 51 singles, 12 doubles, 29 triples and 7 homeruns. How many more triples, doubles, singles, and homeruns would Joe need to have a .629 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. The correct answer is not here.

$$\frac{(51 \times 1) + (12 \times 2) + (29 \times 3) + (7 \times 4)}{350} = \frac{190}{350} = .543$$

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 276 hits. What is Rashid's slugging average?

$$\frac{(154 \times 1) + (47 \times 2) + (25 \times 3) + (50 \times 4)}{754} = .694$$

$$276 - 154 - 47 = 75 \div 3 = 25$$

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

$$\frac{6,600,000,000}{2} = 3,300,000,000$$

13. How many area codes would be possible if the first digit could be any value 2-9 and the last two digits could be any value 1-9?

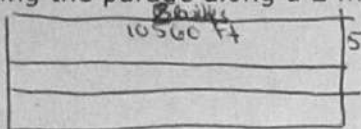
$$\frac{8}{2-9} \times \frac{9}{1-9} \times \frac{9}{1-9} = 648 \text{ area codes}$$

14. The width of a tire P245/70R16 is _____.

$$245 \text{ mm} = 24.5 \text{ cm}$$

$$5280 \times 2 =$$

15. You are standing amongst a crowd that is 5 feet deep and 2 miles long at a parade. You want to estimate how many people are there. If each person occupies 2.5 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)



$$10560 \times 5 = 52800 \times 2 = 105600$$

$$\frac{105600}{2.5} = 42240 \text{ people}$$

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

16. The dimensions of a desk are 36in long and 24in wide. What is the aspect ratio of the desk?

$$\frac{36}{24} = \frac{3}{2} = 1.5$$

17. If the aspect ratio of a chalkboard is 7:5 and the width is 9 in, what is the length of the eraser?

$$\frac{7}{5} = \frac{x}{9} \rightarrow \frac{63}{5} = \frac{5x}{5} \rightarrow x = 12.6 \text{ inches}$$

18. A television with a 6:4 pillar boxed image is displayed on a 16:9 ratio screen. What percent of the screen's area is occupied by the image? (Divide the ratio of the smaller image by the ratio of the larger image.)

$$\frac{\frac{6}{4}}{\frac{16}{9}} = \frac{6}{4} \cdot \frac{9}{16} = .84375 = 84.375\%$$

Use the following for #19-21.

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- 80
- Final Exam Grade- 62
- Homework - 82
- Class Participation- 90

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

$$80(.5) + 62(.25) + 82(.15) + 90(.10) = 76.8$$

$$80(.6) + 62(.20) + 82(.1) + 90(.1) = 77.6 \quad \boxed{\text{System 2}}$$

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

not much at all because HW is only worth 10%

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

$$75(.5) + 62(.25) + 82(.15) + 90(.10) = 74.3$$

$$75(.6) + 62(.20) + 82(.10) + 90(.10) = 74.6 \quad \boxed{\text{system 2}}$$