

AMDM 1.C and 1.D Review

1. The career stats for Brett Favre are 6300 completions out of 10,169 attempts for 71,838 yards. He threw 508 TD's and 336 interceptions. Find his QB rating.

$$QR = \frac{25 + 10(62) + 40(5) - 50(3.3) + 50(7.1)}{12}$$

$$QR = \frac{1035}{12} = \boxed{86.25}$$

$\% \text{ comp} = \frac{6300}{10169} = 0.6195 = 62.0\%$
 $\% \text{ TD} = \frac{508}{10169} = 0.04996 = 45.0\%$
 $\% \text{ Int} = \frac{336}{10169} = 0.033 = 3.3\%$

2. Recall slugging percentage is found by using the formula below:

$$SLG = \frac{(1 \cdot S) + (2 \cdot D) + (3 \cdot T) + (4 \cdot HR)}{AB}$$

$$Yd = \frac{71838}{10169} = 7.1$$

a. Find the SLG for a player with 52 doubles, 31 singles, 2 triples, 61 homeruns, and 335 at bats

$$SLG = \frac{31(1) + 52(2) + 2(3) + 61(4)}{335} = \frac{385}{335} = \boxed{1.149}$$

b. Find the SLG for a player with 152 singles, 13 doubles, 20 triples, 33 homeruns, and 420 at bats.

$$SLG = \frac{152(1) + 13(2) + 20(3) + 33(4)}{420} = \frac{370}{420} = \boxed{0.881}$$

c. Dustin Pedroia is one of Ms. Baird's dad's favorite baseball players. In his 2013 season, Pedroia had a SLG of 0.415. Out of 641 at bats, he had 42 doubles, 2 triples, and 9 homeruns. Find out how many singles Pedroia hit in 2013.

$$0.415 = \frac{S + 2(42) + 3(2) + 4(9)}{641}$$

$$266.015 = S + 126$$

$$\underline{-126} \quad \underline{-126}$$

$$S = 140.015 \rightarrow \boxed{140 \text{ singles}}$$

3. Verify that the following code for a wall mural is a valid UPC number

0 88085 10811 8

$$3(0+8+8+1+0+1) + (8+0+5+0+1+8)$$

$$3(26) + 22 = 78 + 22 = 100 \checkmark$$

ends in "0" so it is valid!

4. What should the check digit be in order to make the following a valid UPC number?

0 37849 89240 d should not be "9."

$$3(0+7+4+8+2+0) + (3+8+9+9+4+d)$$

$$3(21) + 33 + d = 63 + 33 + d = 96 + d \rightarrow \boxed{d=4}$$

since $96 + 4 = 100$

5. The corner of the upc symbol on a box of band-aids is torn off so that the last number (check digit) is missing. What would the check digit be?

0 11110 35114 d

$$3(0+1+1+3+1+4) + (1+1+0+5+1+d)$$

$$3(10) + 8 + d = 30 + 8 + d = 38 + d \rightarrow \boxed{d=2}$$

since $38 + 2 = 40$

6. Use the following grading system to find Leo's final grade in Latin

5% homework

70% tests

15% final exam

10% quizzes

His grades are:

Tests: 72, 76, 67, 81

$$\frac{72+76+67+81}{4} = \frac{296}{4} = 74$$

Quizzes: 89, 78, 0, 92, 86

$$\frac{89+78+0+92+86}{5} = 69$$

Homework average: 90

Final exam: 92

$$0.05(90) + 0.7(74) + 0.15(92) + 0.10(69)$$

$$= 4.5 + 51.8 + 13.8 + 6.9 = \boxed{77}$$

8. If Suzette's averages are Homework = 95, quizzes = 85, and tests = 72, what grade does she need on the Latin Final exam to get an 80% in the class?

$$0.05(95) + 0.10(85) + 0.7(72) + 0.15x \geq 80$$

$$63.65 + 0.15x \geq 80$$

$$0.15x \geq 16.35$$

$$\boxed{x \geq 109}$$

— I hope there's a bonus!

AMDM 1.C and 1.D Review 2

1. Use the career stats for Tony Romo to find his QB rating. Round to the nearest tenth.

$$QR = \frac{25 + 10(\%comp) + 40(\%TD) - 50(\%int) + 50(YD)}{12}$$

PLAYER	ATT	COMP	PCT	YDS	YDS/A	TD	INT	SACK	YDS/G
Tony Romo	483	317	65.6	3,895	8.06	29	9	30	278

$$\%comp = \frac{317}{483} = 0.656 = \underline{65.6\%}$$

$$YD = \frac{3895}{483} = \underline{8.1}$$

$$\%TD = \frac{29}{483} = 0.060 = \underline{6\%}$$

$$\%int = \frac{9}{483} = 0.0186 = \underline{1.9\%}$$

$$QR = \frac{25 + 10(65.6) + 40(6) - 50(1.9) + 50(8.1)}{12}$$

$$QR = \frac{1231}{12} = \boxed{102.583}$$

2. Recall slugging percentage is found by using the formula below:

$$SLG = \frac{(1 \cdot S) + (2 \cdot D) + (3 \cdot T) + (4 \cdot HR)}{AB}$$

Third baseman for the Atlanta Braves, Chipper Jones, has the following stats out of 140 games in the 2010 season:

- 35 Doubles
- 2 Triples
- 168 Singles
- 22 Homeruns
- 521 At bats

$$SLG = \frac{1(168) + 2(35) + 3(2) + 4(22)}{521} = \frac{332}{521}$$

$$= \boxed{0.637}$$

Find his slugging percentage: _____

3. In 1956, Mickey Mantle had an SLG of 0.705. Out of 533 at bats, he hit 109 singles, 5 triples, and 52 homeruns. How many doubles did Mantle hit?

$$(533) 0.705 = \frac{1(109) + 2D + 3(5) + 4(52)}{533}$$

$$375.765 = 332 + 2D$$

$$\underline{-332} \quad \underline{-332}$$

$$2D = 43.765$$

$$D = 21.8825 \rightarrow \boxed{22 \text{ doubles}}$$

4. Is the following UPC code valid? Show work. 0-51201-67421-5

Yes _____ No

doesn't end
in "0"

$$3(0+1+0+6+4+1) + (5+2+1+7+2+5)$$

$$3(12) + 22 = 36 + 22 = 58 \rightarrow \text{not a multiple of } 10!$$

5. If problem #3 is not a valid UPC code, what number should you place in the last digit to make it a valid UPC code? Answer d = 7

since $58 + 2 = 60$, therefore, $5 + 2 = 7$
as the check digit.

6. What should the "check digit" be for the following credit card number?

5326 8503 0124 460 d

$$2(5+2+8+0+0+2+4+0) + 2 + (3+6+5+3+1+4+6+d)$$

$$2(21) + 30 + d = 42 + 30 + d = 72 + d \rightarrow \boxed{d=8}$$

since $72 + 8 = 80$

7. Determine the check digit (d) for the UPC number 02467936163d.

$$3(0+4+7+3+1+3) + (2+6+9+6+6+d)$$

$$3(18) + 29 + d = 54 + 29 + d = 83 + d \rightarrow \boxed{d=7} \text{ since } 83 + 7 = 90$$

8. Suppose your final grade in this class is based on the following system.

Test Average 50%

Final Exam 20%

Homework 15%

Class Participation 15%

$$0.5(80.75) + 0.2x + 0.15(83) + 0.15(90) \geq 85$$

$$66.325 + 0.2x \geq 85$$

$$0.2x \geq 18.675$$

$$x \geq 93.375 \rightarrow$$

Given the grades listed below, what grade would you need to earn on the final exam to earn a final grade average of at least an 85?

Test grades {75, 82, 90, 76} $\frac{75+82+90+76}{4} = \frac{323}{4} = 80.75$

Homework {90, 100, 75, 87, 63} $\frac{90+100+75+87+63}{5} = \frac{415}{5} = 83$

Class Participation {90}

needs
to
make
a
94

Final Answer: _____