

MIDTERM EXAMINATION
Fall 2008
MTH302- Business Mathematics & Statistics (Session - 2)

Question No: 1 (Marks: 1) - Please choose one

Store A marked down a \$ 50 perfume to \$ 40 with markdown of \$10

The % Markdown is

- ▶ 10%
- ▶ 20%
- ▶ 30%
- ▶ 40%

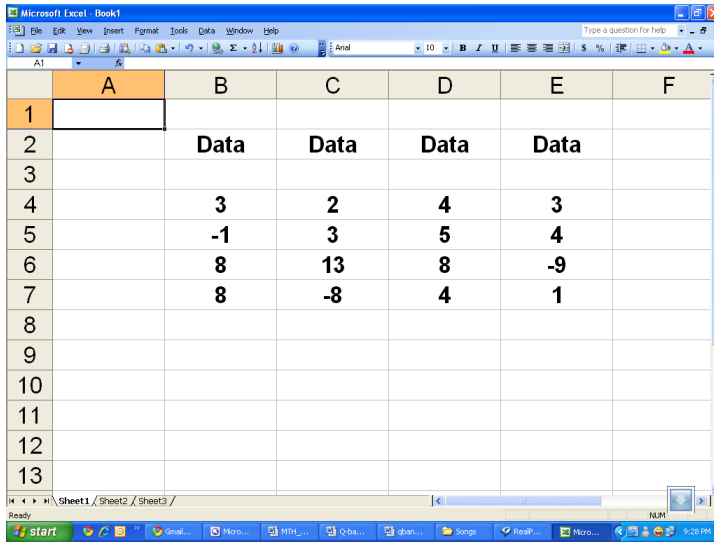
Question No: 2 (Marks: 1) - Please choose one

Given Net price of shirt = \$20 , Discount = 10% ,List price will

- ▶ \$22
- ▶ \$24
- ▶ \$26
- ▶ \$30

Question No: 3 (Marks: 1) - Please choose one

Which is the correct syntax for the determinant of a matrix given by the following array



The screenshot shows an Excel spreadsheet with the following data in cells B4:E7:

	A	B	C	D	E	F
1						
2		Data	Data	Data	Data	
3						
4		3	2	4	3	
5		-1	3	5	4	
6		8	13	8	-9	
7		8	-8	4	1	
8						
9						
10						
11						
12						
13						

- ▶ =DETERM(B4:E7)
- ▶ =MDTERM(B4:E7)
- ▶ =MDETERM(B4:E7)
- ▶ =MDETERM(B4;E7)

Question No: 4 (Marks: 1) - Please choose one

VDB returns the depreciation of an asset for

- ▶ Zero period
- ▶ One period
- ▶ Two period
- ▶ Any arbitrary period

Question No: 5 (Marks: 1) - Please choose one

If the cost & selling price of a pen are Rs.12 & Rs.15 respectively, profit percentage is:

- ▶ 33.33%
- ▶ 25%

▶ 20%

▶ 10%

Question No: 6 (Marks: 1) - Please choose one

This example returns the depreciation for an asset that costs Rs. 10,000, with a salvage value of \$8,000. The useful life of the asset is 5 years. The depreciation is being calculated for the third year, and there are 10 months in the first year.

- ▶ =DB (10000, 5, 8000, 3, 10)
- ▶ =DB (10000, 8000, 5, 10, 3)
- ▶ =DB (10000, 8000, 5, 3, 10)
- ▶ =DB (10000, 8000, 10, 3, 5)

Question No: 7 (Marks: 1) - Please choose one

Which of the following functions is not related to financial analysis?

- ▶ AMORDEGRC
- ▶ AMORLINC
- ▶ CUMIPMT
- ▶ MDETERM

Question No: 8 (Marks: 1) - Please choose one

$(2)^{-2} =) 0.25.....$

- ▶
- ▶
- ▶
- ▶

Question No: 9 (Marks: 1) - Please choose one

ension of a matrix means . Dim

- ▶ Column space
- ▶ Row space
- ▶ Order of the matrix
- ▶ None of these

Question No: 10 (Marks: 1) - Please choose one

If there is a -30% change in the price of an item, what does the negative sign show?

- ▶ The price is increasing.
- ▶ **The price is decreasing.**
- ▶ The price has low rate of change.
- ▶ None of the above.

Question No: 11 (Marks: 1) - Please choose one

According to taxation rules; the amount of allowances is treated tax free if it is upto 50% of the basic salary.

- ▶
- ▶
- ▶
- ▶

Question No: 12 (Marks: 1) - Please choose one

Write a formula to find the simple interest (I) if \$5000 is invested at 4% for 2 years.

- ▶ **I=PRT**
- ▶ I=P+R+T
- ▶ I=PT
- ▶ I=P(R+T)

Question No: 13 (Marks: 1) - Please choose one

Every percentage can be converted into:

- Decimal
- Ratio
- Proportion
- Both decimal & ratio**

Question No: 14 (Marks: 1) - Please choose one

Monthly installments of a leased car are calculated by using the techniques of:

- ▶ Simple interest method
- ▶ **Compound interest method**

- ▶ Annuity
- ▶ Hit & trial method

Question No: 15 (Marks: 1) - Please choose one

Suppose that you are spending 1500 dollars in an investment and Accumulated factor is 15 then Accumulated Value will be

- ▶ 22550
- ▶ **22500**
- ▶ 21000
- ▶ 22510

Question No: 16 (Marks: 1) - Please choose one

$3\frac{1}{2}$

What is the interest on Rs. 1600 for one year at the rate %?

- ▶ 65
- ▶ **56**
- ▶ 75
- ▶ 90

Question No: 17 (Marks: 2)

A man borrows \$39000 for 1 and half year at a rate of 1.65%. What is the simple interest he has to pay?

Simple interest is given by

$$I = \frac{P \cdot R \cdot T}{100}$$

P= principal = \$39000

R= interest rate= 1.65%

T= 1.5 year

$$\text{Interest, } I = \frac{(39000 \cdot 1.65 \cdot 1.5)}{100} = \text{Rs } 965.25$$

Question No: 18 (Marks: 2)

Cost price = 2000Rs

Selling price = 6500Rs

Then what will be %Markup on cost?

MUC= S- C (Rs markup on cost = selling price- cost price)

$$= 6500 - 2000 = \text{Rs } 4500$$

$$\% \text{ markup on cost} = \left(\frac{\text{MuC}}{\text{cost price}} \right) \cdot 100 = \left(\frac{4500}{2000} \right) \cdot 100 = 225\%$$

Question No: 19 (Marks: 3)

	A	B	C
1			
2			
3		50	
4		20	
5		10	
6		2	
7			
8			
9		=SUM(B3,B4,B5,B6)	
10		=MULTIPLY(B5,B6)	
11		B4/B6	
12		=B4%	
13			

Write the output of B9, B10, B11 and B12. If you think the formula is incorrect write "Error" in output.

ANSWER:

The output of =sum(B3,B4,B5,B6) = 100

=multiply(B5,B6) will not give result because multiply is not a excel function

B4/B6 is not a formula because in excel formula must start with "="

=B4% will return 0.2

Question No: 20 (Marks: 5)

A gold chain is sold for Rs. 6500 at a gain of 25%. Find the profit.

Selling price = 6500

Profit = 25%

Profit in Rs= (6500*25)/100= Rs 1625

Question No: 21 (Marks: 10)

the following matrices perform the indicated operation, if possible.

For

$$A = \begin{bmatrix} 2 & 0 & -3 & 2 \\ -1 & 8 & 10 & -5 \end{bmatrix} \quad B = \begin{bmatrix} 0 & -4 & -7 & 2 \\ 12 & 3 & 7 & 9 \end{bmatrix} \quad C = \begin{bmatrix} 2 & 0 & 2 \\ -4 & 9 & 5 \\ 6 & 0 & -6 \end{bmatrix}$$

(a) $A+B$

(b) $B-A$

(c) $A-C$

a)

$$A = \begin{matrix} 2 & 0 & -3 & 2 \\ -1 & 8 & 10 & -5 \end{matrix} \quad + \quad B = \begin{matrix} 0 & -4 & -7 & 2 \\ 12 & 3 & 7 & 9 \end{matrix}$$

$$A+B = \begin{matrix} 2+0 & 0-4 & -3-7 & 2+2 \\ -1+12 & 8+3 & 10+7 & -5+9 \end{matrix}$$

$$A+B = \begin{matrix} 2 & -4 & -10 & 4 \\ 11 & 11 & 17 & 4 \end{matrix}$$

b)

$$B-A = \begin{matrix} 0-2 & -4-0 & -7-(-3) & 2-2 \\ 12-(-1) & 3-8 & 7-10 & 9-(-5) \end{matrix}$$

$$B-A = \begin{matrix} -2 & -4 & -4 & 0 \\ 13 & -5 & -3 & 14 \end{matrix}$$

c) $A+C$ is not conformable for addition because for addition number of rows and columns of A must be equal to number of rows and columns of C