# 1. END-OF-SEMESTER TEST MATRIX FRAMEWORK IN MATH – GRADE 11

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Content/unit of knowledge** | **Level of assessment** | | | | | | | | | | | | **Total % score** |
| **Remember** | | **Understand** | | **Apply** | | **Analyze** | | **Assess** | | **Creative** | |
| **TN** | **TL** | **TN** | **TL** | **TN** | **TL** | **TN** | **TL** | **TN** | **TL** | **TN** | **TL** |
| 1. ***Matching events*** | 1 |  | 5 |  |  | 1a | 11 |  |  |  |  |  | **12,5%** |
| 1. ***Delivery events*** | 2 |  | 6 |  |  | 1b | 12 |  |  |  |  |  | **12,5%** |
| 1. ***Conflict events*** | 3 |  |  |  |  |  |  |  |  |  |  |  | **2,5%** |
| 1. ***Independent events*** | 4 |  |  |  |  |  |  |  |  |  |  |  | **2,5%** |
| 1. ***Probabilistic addition formula*** |  |  | 7 |  | 9 | 2a | 13,14 | 3a | 17 |  |  |  | **27,5%** |
| 1. ***Probability multiplication formula*** |  |  | 8 |  | 10 | 2b | 15,16 | 3b | 18 | 4a | 19 |  | **35%** |
| 1. ***Formula for addition and multiplication of probabilities*** |  |  |  |  |  |  |  |  |  |  | 20 | 4b | **7,5%** |
| **TOTAL** | **4** | **0** | **4** | **0** | **2** | **4** | **6** | **2** | **2** | **1** | **2** | **1** |  |
| **Percentage %** | **10%** | | **10%** | | **30%** | | **30%** | | **10%** | | **10%** | | **100%** |

**3.** TEST Time to do the test: 60 minutes, excluding the time to play the test

I. MULTIPLE-CHOICE SECTION: Choose the correct option from options A, B, C, D.  
**Question 1: .** If and are two conflicting events of a test, then equal to

A.

B.

C.

D.

**Verse 11.** If and are two independent events of a test, then equal to

A.

B.

C.

D.

**Q9.** Let two events and be a subset of the sample space Element when

A. or

B. and

C. and

D. and

**Q10**. Let two events and be a subset of the sample space Element when

A. and

B. or

C. and

D. and

**Verse 12.** Randomly select a positive integer less than 21. Consider event A: "The selected number is divisible by 2", event B: "The selected number is divisible by 3". As a result ,

A.

B.

C.

D.

**Question 13:** A box has 12 blue balls and 8 red balls, the balls are the same size and mass. Randomly take two balls simultaneously. Calculate the probability of two balls taking out the same color.

A.

B.

C.

D.

**Question 14:** Let the pyramid be even (side pictured). What is the angle between the two lines and which is the following ?

**A.**  **B.**

**C.**  **D.**

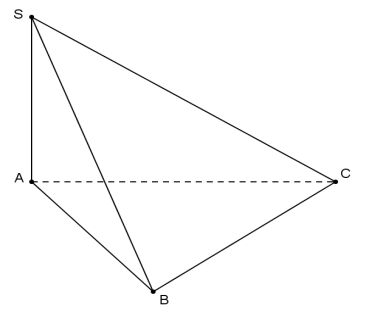
**Question 15:** Give the cube . Which of the below lines **is not** perpendicular to a straight line?

**A.**  **B.**  **C.**  **D.**

**Question 16**: The volume of a prism whose base area is equal to the height is:

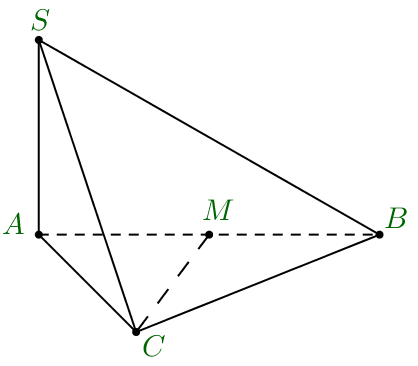
**A. B. C. D.**

**Question 17:** Let the tetrahedron be a right triangle at and . Which plane is the line perpendicular to below?



**A. B. C. D.**

**Question 18:** Let the pyramid whose base be an isosceles triangle at and called the midpoint of the Angle between two lines and equal

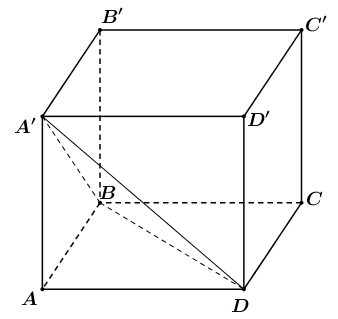
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**A.**  **B.**  **C.**  **D.**

**Question 19:** Let the pyramid whose base be a right triangle at the perpendicular projection of the vertex on the base be the midpoint of the edge The line **is not** perpendicular to any of the following lines?

**A.**  **B.**  **C.**  **D.**

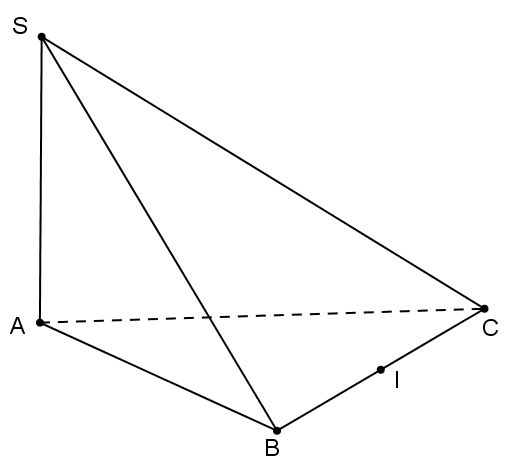
**Question 20:** Give the cube . Which of the below planes perpendicular to the plane?



**A.** . **B.** .

**C.** . **D.** .

**Question 21:** Let the pyramid have and . Call it midpoint . What is the angle between the two planes and which is below?



**A. B. C. D.**

**Verse 22**. (TH) Let the pyramid have and the base be a right triangle at . Which of the following assertions **is false**?

**A.** .

**B.** .

**C.** .

**D.** .

**Verse 23.** (NB) For the cube . The common perpendicular segment of the two lines and is

**A.** .

**B.** .

**C.** .

**D.** .

**Verse 24**. (TH) Give the cube the edge . The distance from the point to the plane is equal to

**A.** .

**B.**

**C.**

**D.**

**Verse 25**. (TH) Let the pyramid have a base of square edges , and . Distance from straight line to plane plane

**A.** .

**B.**

**C.**

**D.**

**Verse 26**. (NB) Of the following clauses, which of the following is true?

**A.** Two planes perpendicular to each other, every line in one plane will be perpendicular to the other.

**B**. Two distinct planes perpendicular to the same plane are perpendicular to each other.

**C**. Two distinct planes that are both perpendicular to one are parallel to each other.

**D**. Two planes perpendicular to each other, every line in one plane and perpendicular to the intersection of two planes will be perpendicular to the other.

**Verse 27**. (NB) For rectangular boxes . The dihedral plane angle is

**A.** .

**B.**

**C.**

**D.**

**Verse 28.** (TH) Let the pyramid have and the base be a right triangle at . The dihedral plane angle is

**A.** .

**B.**

**C.**

**D.**

**II. ESSAY SECTION:Lesson  
 1 (0.5 points):** Calculating the derivative of the function:

**Lesson 2 (1.0 points):** A gunner fires 2 bullets at a target in turn. The probability of hitting the first and second rounds is respectively and Know that the results of the shots are independent of each other.

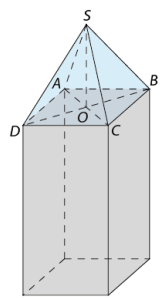
**a) (0.5 points)** Calculate the probability of the event "both shots hit the target".

**b) (0.5 points)** Calculate the probability of the event "only 1 shot on target".

**Lesson 3 (1.5 points):**

**a) (0.75 points)** Let the pyramid whose base be a square edge equal to Know that and Calculate the volume of the pyramid .

**b) (0.75 points)** To prepare for an international exhibition, jewelry of great value is securely placed in quadrangular spire blocks as shown and placed on top of a rectangular box-shaped pillar with a square bottom height next to the event organizers plan to use isosceles triangular tempered glass panels with sides to assemble again into the aforementioned pyramidal mass. Calculate the distance from the top of the pyramid to the floor where the exhibition takes place.



**4. INSTRUCTIONS FOR MARKING EXAMS AT THE END OF SEMESTER II**

**Subject: MATHS, Year 11**

**I. MULTIPLE-CHOICE SECTION:** *0.25 points / 1 correct answer*

**II. ESSAY SECTION**

|  |  |  |
| --- | --- | --- |
| **CARD** | **ANSWER** | **DIEM** |
| **1** | Calculating the derivative of the function: | **0,5** |
| (each correct element gets 0.25) | 0,5 |
| **2** | A gunner fired 2 rounds at a target in turn. The probability of hitting the first and second rounds is respectively and Know that the results of the shots are independent of each other.  **a)** Calculate the probability of the event "both shots hit the target". | **0,5** |
| It' s called the "first hit" event. We have:  It' s called a "second hit" incident. We have | 0,25 |
| Since they are two independent events, the probability that both shots will hit the target is | 0,25 |
| **b)** Calculate the probability of the event "only 1 hit the target". | **0,5** |
|  | 0,25 |
| The probability to have only 1 hit on target is | 0,25 |
| **3a** | Let the pyramid whose base be a square equal to Know that and Compute the volume of the pyramid . | **0,75** |
| We have: | 0,25 |
| The square has an area of | 0,25 |
| So | 0,25 |
| **3b** | To prepare for an international exhibition, jewelry of great value is securely placed in quadrangular pyramidal blocks as shown and placed on top of a rectangular box-shaped pillar with a square bottom height next to the event organizers plan to use isosceles triangular tempered glass panels with sides to assemble into blocks aforementioned spire. Calculate the distance from the top of the pyramid to the floor where the exhibition takes place. | **0,75** |
| We have is the square edged equal to and . The inference is uniformly pyramidal.  Then: | 0,25 |
| Inferred: | 0,25 |
| The distance from the top of the pyramid to the floor where the exhibition takes place is | 0,25 |