Naam van leerling/*Name of learner*:………………………………………………..

#  November/*November*

**Graad/*Grade* 8 Punte/*Marks*: 100**

**Wiskunde Eerste Vraestel Tyd/*Time*: 2 uur/*hours***

***Mathematics First Paper***

**Eksaminator/*Examinator*: Moderator:**

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| INSTRUKSIES AAN KANDIDATE*INSTRUCTIONS TO CANDIDATES*1. Hierdie vraestel bestaan uit TWEE vrae. Beantwoord ALTWEE die vrae

 *This question paper consists of TWO questions. Answer BOTH questions*1. Beantwoord Vraag 2.8.2 op Diagramblad. Skryf jou naam in die

 spasie wat voorsien word en handig dit saam met jou antwoordstel in. *Answer Question 2.8.2 on Diagram sheet. Write you name in the space* *and submit with your answer sheets.*1. Nommer presies soos op die vraestel

 *Number the answers exactly as on the paper*1. Begin elke vraag op ‘n nuwe bladsy en trek ‘n lyn na elke vraag .

 Laat ‘n spasie oop na elke nommer. *Start each question on a new page and draw a line at the end of each*  *question. Leave a space between each number.* 5. GEEN SAKREKENAAR mag gebruik word nie  *NO CALCULATOR may be used.*1. Wys al jou bewerkings en dit is tot jou voordeel om netjies te werk

 *Show all your calculations and it is in your own interest to work neatly.*1. Sterkte!

 *Good luck!*  |

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| **VRAAG 1*****QUESTION 1*** |  |  |
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| 1.1 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

 |  |
|  | Uit die lys van getalle hierbo skryf neer ALLE getalle wat*From the list of numbers above, write down ALL numbers that…* |  |
|  |  |  |  |
|  | 1.1.1 | faktore van 6 is.*are factors of 6.* |  |
|  | 1.1.2 | veelvoude van 3 is*are multiples of 3.* |  |
|  | 1.1.3 | deelbaar deur 2 is.*divisible by 2.* |  |
|  | 1.1.4 | priemgetalle is*are prime numbers.*  | (8) |
|  |  |  |  |
| 1.2 | Vul die ontbrekende getal in om die kante gelyk te maak hieronder *Write the missing number to make the sides equal.* |  |
|  |  |  |
|  | 467 940 + (1 670 + 357 865) + 2 678 879 = (467 940 + 1 670) + \_\_\_\_\_\_ + 357 865 | (1) |
| 1.3 | Bestudeer die vier getalle hieronder.*Study the four numbers below.*

|  |  |  |  |
| --- | --- | --- | --- |
| **30** | **2** | **8** | **10** |

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|  |  |  |  |
|  | Plaas die getalle in die spasies hieronder sodat die vergelyking korrek is.*Organise these numbers so that each equation is correct.* |  |
|  |  \_\_\_ + \_\_\_ ÷ \_\_\_ ― \_\_\_ = 24 |  |
|  | Gebruik elke getal slegs een keer. Skryf die hele vergelyking neer.*Use each number only once per equation. Write down the whole equation.* | (4) |
| 1.4 | Bereken die volgende en wys al jou bewerkings*Calculate the following and show all calculations* 1.4.1 $ \sqrt{36 } ×\left( 3^{2}- 2^{3}\right) $  | (5) |
|  | 1.4.2 ( 4 + 3)2 – $\sqrt[3]{64}$ 1.4.3 ( 0,2)2 + $\sqrt{0,25}$  | (4)(3) |
| 1.5 | Skryf van groot na klein.*Write from biggest to smallest.*$$\frac{11}{100} ; \frac{5}{10} ; \frac{43}{100} ; \frac{4}{5} ; \frac{3}{20} ; \frac{9}{25}$$ | (3) |
| 1.6 | Watter een is die kleinste? Wenk: Skryf eers getalle in gewone vorm.*Which is the smallest? Tip: Write numbers in normal notation first*$ 1,123×10^{5} $ of $ 9,2 ×10^{4}$  |  (3) |
|  |  |  |
| 1.7 | Bepaal $\sqrt{1764}$ deur priemfaktore te gebruik (leermetode of faktorboom of enige ander metode). *Determine* $\sqrt{1764}$ *by using prime factors (ladder method or factor tree or any other method).* | (4) |
|  |  |  |  |
| 1.8 | Skryf die volgende verhouding in sy eenvoudigste vorm deur die nodige berekeninge te doen: *Write the following ratio in its simplest form by doing the necessary calculations:*  0,5 m : 250 cm | (2) |
|  |  |  |  |
| 1.9 | Vermeerder R45 in die verhouding 9 : 5*Increase R45 in the ratio 9 : 5* | (3) |
| 1.10 | Verdeel R450 in die verhouding 4 : 5*Divide R450 in the ratio 4 : 5* | (4) |
| 1.11 | ‘n Meubileerder koop ‘n stoel teen ‘n kosprys van R250 by ‘n groot handelaar en verkoop dit dan teen R325.*A furnisher buys a chair at a cost price of R250 at a wholesaler and sells it at R325.* |  |
|  |  |  |
|  | 1.11.1 | Bereken sy wins in rand.*Calculate his profit in rand.* | (1) |
|  |  |  |  |
|  | 1.11.2 | Bereken die wins as ‘n persentasie van die kosprys.*Calculate the profit as a percentage of the cost price.* | (3) |
|  |  |  |  |  |
| 1.12 | Die nommers 1 tot 15 word in ‘n hoed geplaas. Wat is die waarskynlikheid om ‘n priemgetal te trek?*The numbers 1 to 15 are placed in a hat. What is the probability to draw a prime number* | (2) |
|  |  | [50] |

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| **VRAAG 2*****QUESTION 2*** |  |  |
| 2.1 | Bestudeer die volgende uitdrukking en beantwoord die vrae wat volg: *Consider the following expression and answer the questions that follow.*  – 2$ xy$ – $x$3y2 + 3$ x$2y3 – 4 |  |
|  | 2.1.1 | Hoeveel terme is daar in die uitdrukking voor vereenvoudiging? *How many terms does the expression have before simplifying?* | (1) |
|  | 2.1.2  | Gee die graad van die uitdrukking.*Give the degree of the expression* | (1) |
|  | 2.1.3 | Skryf die konstante in die uitdrukking neer *Write down the constant in the expression* | (1) |
|  | 2.1.4 | Skryf die koëffisient van *xy* neer*Write down the coefficient of xy* | (1) |
|  | 2.1.5 | Wat is die eksponent van *x* in die eerste term?*What is the exponent of x in the first term?* | (1) |
|  | 2.1.6 | Bepaal die waarde van die uitdrukking indien $x= -1$ en *y* = 2*Determine the value of the expression if* $x= -1$ *and y = 2* | (4) |
|  |  |  |  |
| 2.2 | Vereenvoudig:*Simplify:* |  |
|  | 2.2.1 | $\frac{p^{4}. q^{5} . q^{2} . p^{4} }{q^{6} }$  | (2) |
|  |  |  |  |
|  | 2.2.2 | (– 8$x^{4}y^{2}$)(5$x^{3}y^{4})$($ $–2$x$) | (3) |
|  |  |  |  |
|  | 2.2.32.2.42.2.5 | – 5$ $(2$x$ 2 + $ x$ – 20) + 12$x$ 2+3$ x$12p + 3q – 5p – 6q ( – 2 a b 2 ) 3 | (3)(2)(3) |
|  |   |   |  |
| 2.3 | Los op vir $x$*Solve for* $x$ |  |
|  | 2.3.1 | $4x+5=5x-9$  | (2) |
|  |  |  |  |
|  | 2.3.22.3.3 | $5\left(x-1\right)-\left(1-2x\right)=8$ 2*x* + 1 = 9 | (4)(2) |
| 2.4 |  | Die som van drie opeenvolgende natuurlike getalle is 33. Bepaal die drie getalle. |  |
|  |  | *The sum of three consecutive natural numbers is 33. Determine the three numbers* | (4) |
|  |  |  |  |
| 2.5 |  | Vind die waardes van *x* en *y* in die volgende ry:*Find the values of x any in the following sequence:* |  |
|  |  | 3; 5; 7; *x*; *y*; …. | (2) |
|  |  |  |  |
| 2.6 |  | Ondersoek die gegewe *x* en *y* waardes en bepaal die verwantskap tussen *x* en *y*.Vind dan die waardes van *a* en *b.**Examine the given x and y values and determine the relationship between x and y. Then find the values of a and b.* |  |
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| *x* | 1 | 2 | 3 | 4 | *a* | 10 |
| *y* | 4 | 7 | 10 | 13 | 22 | *b* |

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|  | 2.6.1 | *y* =  | (2) |
|  | 2.6.2 | *a* = | (1) |
|  | 2.6.3 | *b* = | (1) |
|  |  |  |  |
| 2.7 | Ilne het haar tante besoek wat 50 km van haar huis woon. Die grafiek toon die afstand wat Ilne van haar huis weg is tydens die besoek.*Ilne visited her aunt who stays 50km from their house. The graph below shows how she travelled.* |  |
|  | 2.7.1 | Hoe laat het Ilne haar huis verlaat?*What time did Ilne leave her home?* | (1) |
|  | 2.7.2 | Hoe laat het Ilne by haar tante se huis aangekom?*What time did she arrive at her aunt’s house?* | (1) |
|  | 2.7.3 | Hoeveel tyd het Ilne by haar tante deurgebring?*For how long did she stay at her Aunt’s house?* | (1) |
|  | 2.7.4 | Hoe laat het Ilne weer tuis gekom?*What time did she get back home eventually?*  | (1) |
|  |  |  |  |
| 2.8 | Gegee *y* = 2*x* – 3. *Given y = 2x – 3.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *x* | -1  | 0 | 1 | 2 | 3 |
| *y* |  |  |  – 1  |  |  |

  |  |
|  | 2.8.1 | Kopieër en voltooi die table*Copy and complete the table* | (2) |
|  |  |  |  |
|  | 2.8.2 | Op die diagramblad steek die punte van die tabel op die Cartesies vlak af. Teken die grafiek *On the diagram sheet plot the points on the Cartesian plane. Draw the graph.* | (4) |
|  |  |  | [50] |
|  |  |  **TOTAAL 100** |  |

DIAGRAMBLAD

*DIAGRAM SHEET*

NAAM VAN LEERDER:

*NAME OF LEARNER*: ………………………………………………

GRADE 8 ( )

 Y

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