

MATHS

BOOKS - VGS PUBLICATION-BRILLIANT

PLAYING WITH NUMBER

Exercise

- 1. Write the place value of numbers underlined
- :<u>2</u>9<u>8</u>79



2. Write the place value of numbers underlined :10334



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3. Write the place value of numbers underlined

:98725



4. Write the following numbers in expanded form:65



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5. Write the following numbers in expanded form:74





6. Write the following numbers in expanded form: 153



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7. Write the following numbers in expanded form:612



8. Write the following in standard notation:

$$10 \times 9 + 4$$



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9. Write the following in standard notation:

$$100 \times 7 + 10 \times 4 + 3$$



10. Fill in the blanks :100 imes 3 + 10 imes _____

$$+7 = 357$$



11. Fill in the blanks :
$$100 imes 4 + 10 imes 5 + 1 =$$



12. Fill in the blanks
$$:100 \times$$

$$+10 \times 3 + 7 = 737$$



$$100 imes_ __ -_ +$$
 $10 imes q+r=\overline{pqr}$



14. Fill in the blanks : $100 \times x + 10 \times y + z =$



15. expand The number 8281



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16. Write all the factors of the following numbers:24



17. Write all the factors of the following numbers:15



18. Write all the factors of the following numbers :21



19. Write all the factors of the following numbers :27



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20. Write all the factors of the following numbers :12



21. Write all the factors of the following numbers: 20



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22. Write all the factors of the following numbers:18



23. Write all the factors of the following numbers 23



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24. Write all the factors of the following numbers. 36,



25. Write first five multiples of given numbers:5



26. Write first five multiples of given numbers:8



27. Write first five multiples of given numbers:9



28. The number of prime factors of 72 is



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29. Factorize the following numbers into prime factors:158



30. Factorize the following numbers into prime factors: 243



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31. Check whether the following given numbers are divisible by 10 or not :3860



32. Check whether the following given numbers are divisible by 10 or not :234



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33. Check whether the following given numbers are divisible by 10 or not :1200



34. Check whether the following given numbers are divisible by 10 or not $:10^3$



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35. Check whether the following given numbers are divisible by 10 or not :10+280+20



36. Check whether the given numbers are divisible by 10 or not $:10^{10}$



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37. Check whether the given ummbers are divisible by 10 or not: 2^{10}



38. Check whether the given ummbers are divisible by 10 or not: $10^3 + 10^1$



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39. In the division 56 Z \div 10 leaves remainder 6, what might be the value of Z.



40. Check whether the given numbers are divisible by 5 or not :205



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41. Check whether the given numbers are divisible by 5 or not:4560



42. Check whether the given numbers are divisible by 5 or not:402



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43. Check whether the given numbers are divisible by 5 or not:105



44. Check whether the given numbers are divisible by 5 or not:235785



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45. If 4B ÷ 5 leaves remainder 1, what might be the value of B?



46. If $76C \div 5$ leaves remainder 2, what might be the value of C?



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47. "If a number is divisible by 10, it is also divisible by 5." is the statement true? Give reasons.



48. "If a number is divisible by 5, it is also divisible by 10." is the statement is true or false? Give reasons.



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49. Find the digit in the units place of a number if it is divided by 5 and 2 leaves the remainders 3 and 1 respectively.



50. Write the number of factors of 60 and verify by listing the factors.



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51. Using divisibility tests, determine which of following numbers are divialble by 2 : 2144



52. Using divisibility tests, determine the following number is divisible by 2: 1258



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53. Using divisibility tests, determine which of following numbers are divisible by 2 : 4336



54. Using divisibility tests, determine which of following numbers are divialble by 2:633



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55. Using divisibility tests, determine which of following numbers are divialble by 2 : 1352



56. Using divisibility tesis, determine which of the following numbers are divisible by 5:438750



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57. Using divisibility tests, determine which of the following numbers are divisible by 5:179015



58. Using divisibility tesis, determine which of the following numbers are divisible by 5:125



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59. Using divisibility tesis, determine which of the following numbers are divisible by 5:639210



60. Using divisibility tesis, determine which of the following numbers are divisible by 5:17852



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61. Using divisibility tesis, determine which of the following numbers are divisible by 10:54450



62. Using divisibility tesis, determine which of the following numbers are divisible by 10 :10800



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63. Using divisibility tesis, determine which of the following numbers are divisible by 10 :7138965



64. Using divisibility tesis, determine which of the following numbers are divisible by 10 :7016930



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65. Using divisibility tesis, determine which of the following numbers are divisible by 10 :10101010



66. Write all the factors of the following numbers :18



67. Write all the factors of the following numbers :24



68. Write the number of factors of the following:45



69. Write the number of factors of the following:90



70. Write the number of factors of the following:105



71. Write any 5 numbers which are divisible by 2, 5 and 10.



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72. A number 34A is exactly divisible by 2 and leaves a remainder 1, when divided by find A.



73. Check whether the given numbers which are divisible by 3 or 9 or by both : 3663



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74. Check whether the given numbers which are divisible by 3 or 9 or by both :186



75. Check whether the given numbers which are divisible by 3 or 9 or by both : 342



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76. Check whether the given numbers which are divisible by 3 or 9 or by both :18871



77. Check whether the given numbers which are divisible by 3 or 9 or by both : 120 3789



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78. Check whether the given numbers which are divisible by 3 or 9 or by both :4542



79. Check whether the given numbers which are divisible by 3 or 9 or by both :5779782



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80. 24 P Jeaves remainder 1 if it is divided by 3 and leaves remainder 2, if it is divided by 5. Find the value of P.



81. If 345A7 is divisible by 3, supply the missing digit in place of 'A'.



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82. If 2791A, is divisible by 9, supply the missing digit in place of 'A'.



83. Write some numbers which are divisible by 2, 3, 5, 9 and 10 also.



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84. 2A8 is a number divisible by 2, what might be the value of A?



85. 50B is a number divisible by 5, what might be the value of B?



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86. 2P is a number which is divisible by 2 and 3, what is the value of P?



87. 54Z leaves remainder 2 when divided by 5 and leaves remainder 1 when divided by 3, what is the value of Z?



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88. 27Q leaves remainder 3 when divided by 5 and leaves remainder 1 when divided by 2, what is the remainder when it is divided by 3?



89. Check whether the given numbers are divisible by 6 or not :1632



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90. Check whether the given numbers are divisible by 6 or not :456



91. Check whether the given numbers are divisible by 6 or not :1008



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92. Check whether the given numbers are divisible by 6 or not :789



93. Check whether the given numbers are divisible by 6 or not :369



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94. Check whether the given numbers are divisible by 6 or not :258



95. Check whether the given numbers are divisible by 6 or not :458 +676



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96. Check whether the given numbers are divisible by 6 or not :456



97. Check whether the given numbers are divisible by 6 or not $:6^2+6^3$



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98. Check whether the given numbers are divisible by 6 or not $:\!2^2 \times 3^2$



99. Can you arrange the digits 1, 2, 3, 4, 5, 6, 7, 8, 9 in an order so that the number formed by first two digits is divisible by 2, the umber formed by first three digits is divisible by 3, the number formed by first four digits is divisible by 4 and so on upto nine digits?



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100. Check whether 6582 is divisible by 4?



101. Check whether 28765432 is divisible by 8?



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102. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8 : 464



103. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8 : 782



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104. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8 : 3688



105. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8 : 1000



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106. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8:387856



107. Check whether the given numbers are divisible by 4 or 8 or by both 4 and $8:4^4$



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108. Check whether the given numbers are divisible by 4 or 8 or by both 4 and $8:8^3$



109. Check whether the given numbers are divisible by 4 or 8 or by both 4 and $8:4^2\times8^2$



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110. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8 : 1000



111. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8: $10^5 + 10^4 + 10^3$



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112. Check whether the given numbers are divisible by 4 or 8 or by both 4 and 8: $4^3 + 4^2 + 4^1 - 2^2$



113. Check whether 364 is divisible by 7 or not?



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114. Check whether the given numbers are divisible by 7:322



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115. Check whether the given numbers are divisible by 7 : 588



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116. Check whether the given numbers are divisible by 7:952



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117. Check whether the given numbers are divisible by 7:553



118. Check whether the given numbers are divisible by 7:448



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119. Take a four digit general number, make the divisibility rule for '7'.



120. Check your rule with the number 3192 which is a multiple of 7.



121. Check whether the given numbers are divisible by 11 : 4867216



122. Check whether the given numbers are divisible by 11: 12221



123. Check whether the given numbers are divisible by 11 : 100001



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124. Verify whether 789789 is divisible by 11 or not.



125. Verify whether 348348348 is divisible by 11 or not.



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126. Take an even palindrome i.e. 135531 check whether this number is divisible by 11 or not.



127. Verify whether 1234321 is divisible by 11 or not.



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128. Check whether the given numbers are divisible by '6' or not : 273432



129. Check whether the given numbers are divisible by '6' or not : 100533



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130. Check whether the given numbers are divisible by '6' or not : 784076



131. Check whether the given numbers are divisible by '6' or not : 24684



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132. Check whether the given numbers are divisible by '4' or not : 3024



133. Check whether the given numbers are divisible by '4' or not : 1000



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134. Check whether the given numbers are divisible by '4' or not : 412



135. Check whether the given numbers are divisible by '4' or not : 56240



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136. Check whether the given numbers are divisible by '8' or not : 4808



137. Check whether the given numbers are divisible by '8' or not : 1324



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138. Check whether the given numbers are divisible by '8' or not :1000



139. Check whether the given numbers are divisible by '8' or not : 76728



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140. Check whether the given numbers are divisible by 7 or not : 427



141. Check whether the given numbers are divisible by 7 or not : 3514



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142. Check whether the given numbers are divisible by 7 or not : 861



143. Check whether the given numbers are divisible by 7 or not : 4676



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144. Check whether the given numbers are divisible by '11' or not :786764



145. Check whether the given numbers are divisible by '11' or not :536393



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146. Check whether the given numbers are divisible by '11' or not :110011



147. Check whether the given numbers are divisible by '11' or not :1210121



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148. Check whether the given numbers are divisible by '11' or not :758043



149. Check whether the given numbers are divisible by '11' or not :8338472



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150. Check whether the given numbers are divisible by '11' or not : 54678



151. Check whether the given numbers are divisible by '11' or not : 13431



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152. Check whether the given numbers are divisible by '11' or not : 423423



153. Check whether the given numbers are divisible by '11' or not : 168861



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154. If a number is divisible by '8', then it also divisible by '4'. Explain.



155. A 3-digit number 4A3 is added to another 3-digit number 984 to give four number 13B7, which is divisible by 11. Find (A+B).



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156. 144 is divisible by 12. Is it divisible by the factors of 12? Verily.



157. Check whether $2^3+2^4+2^5$ is divisible by



2. Explain.

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158. Check whether $3^3 - 3^2$ is divisible by 3.

Explain.



159. Check whether $1576 \times 1577 \times 1578$ is divisible by 3 or not.



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160. Check whether 25110 is divisible by 45.



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161. Check whether 61479 is divisible by 81.



162. Check whether 864 is divisible by 36. Verify whether 864 is divisible by all the factors of 36.



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163. Check whether 756 is divisible by 42. Verify whether 756 in divisible by all the factors of 42.



164. Check whether 2156 is divisible by 11 and 7. Verify whether 2156 in divisible by product of 11 and 7.



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165. Check whether 1435 is divisible by 5 and 7. Verify if 1435 is divisible by the product Of and 7.



166. Check whether 456 and 618 are divisible by 6. Also check whether 6 divides the sum of 456 and 618.



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167. Check whether 876 and 345 are divisible by

3. Also check whether 3 divides the difference of 876 and 345.



168. Check whether $2^2+2^3+2^4$ is divisible by 2 or 4 or by both 2 and 4.



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169. Check whether 32^2 is divisible by 4 or 8 or by both 4 and 8.



170. If A679B is a 5-digit number is divisible by 72 find 'A' and 'B'.



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171. Check the result if the numbers chosen

were: 37



172. Check the result if the numbers chosen

were: 60



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173. Check the result if the numbers chosen

were: 18



174. Check the result if the numbers chosen were: 89



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175. In a cricket team there are I players. The selection board purchased 10x + y T-shirts to players. They again purchased 10y +x' T-shirts and total T-shirts were distributed to players equally. How many T-shirts will be left over

after they' distributed equally to 11 players?
How many each one will get?



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176. Take a two digit number reverse the digits and get another number. Subtract smaller number from bigger number. Is, the difference of those two numbers is always divisible by 9?



177. In a basket there are 10a+b' fruits (a 0 and a > b). Among them '10b+a' fruits are rotten. The remaining fruits distributed to 9 persons equally. How many fruits are left over after equal distribution? How many fruits would each child get?



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178. Check in the above activity with the following numbers : 657



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179. Check in the above activity with the following numbers: 473



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180. Check in the above activity with the following numbers: 167



181. Check in the above activity with the following numbers : 135

182. Find Mand Y In the addition Y+Y+Y=MY





183. in A2-15=5A, A2 and 5A are two digit numbers, then find A.



184. In 5A1-23 A=325, 5A1 and 23A are three digit numbers, then find A.



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185. In 1A \times A 9A, 1A and 9A are two digit numbers. Find A.



186. In BA \times B3=57A. BA, B3 are two digit numbers and 57A is a 3 digit number.



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187. If 21358AB is divisible by 99, find the values of A and B. find A and B.



188. Find the values of A and B of the number 4AB8 (A, B are digits) which la divisible by 2, 3, 4, 6, 8 and 9.



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189. If YE \times ME TTT find the numerical value of

Y+E+M+T. [Hint: TTT=100T+10T+T=T(III)=T(37 \times

3)]



190. If cost of 88 articles is A7336, find the values of A



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191. Find the value of A in the following: 7A-16=A9



192. Find the value of A in the following: 107-

A9=1A



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193. Find the value of A in the following: A36-

1A4=742



194. Replace the letters with appropriate digits

:73K ÷ 8=9L.



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195. Replace the letters with appropriate digits

:1MN ÷ 3 =MN



196. If ABB \times 999 = ABC123 (where A, B, C are digits) find the values of A,B,C.



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197. By using the above method check whether 7810364 is divisible by 4 or not.



198. By using the above method check whether 963451 is divisible by 6 or not.



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199. Is every even number of palindrome is divisible by '11'?



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200. Is $10^{1000} - 1$ divisible by both 9 and 11?

201. Can we conclude $10^{2n}-1$ is divisible by both 9 and 11? Explain. Is $10^{2n+1}-1$ is divisible by 11 or not? Explain.



202. Take any two digit number three times to make a 6-digit number. Is it divisible by 3?



203. Take any three digit number and write it two times to make a 6-digit number. Verify whether it is divisible by both 7 and 11.



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204. Check whether 456456456 in divisible by 7,11 and 13.



205. Take a three digit number in which all digits are same. Divide the number will reduced number. What do you notice?



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206. Is $2^3 + 3^3$ is divisible by (2 + 3) or not?



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207. Verify $a^5 + b^5$ is divisible by (a+b) by taking different natural numbers for 'a' and b.



208. Find the sum of integers which are divisible by 5 from 1 to 100.



209. Find the sun of Integers which are divisible by 2 from 11 to 50.



210. Find the sum of integers which are divisible by 2 and 3 from 1 to 50.



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211. $(n^3 - n)$ is divisible by 3. Explain the reason.



212. Sum of 'n' odd number of consecutive numbers is divisible by tn. Explain the reason.



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213. Is $1^2+2^2+3^2+4^2$ divisible by 5Explain.



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214. Rahul's father wants to deposit some amount of money every year on the day of

Rahul's birthday. On his 1^{st} birthday Rs.100, on his birthday Rs.300, on his 3^{rd} birthday Rs.600, on his birthday Rs.1000 and so on. What is the amount deposited by his father on Rahul's 15^(th) birthday?



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215. Find the sum of Integers from 1 to 100 which are divisible by 2 or 5.



216. Find the sum of Integers from 11 to 1000 which are divisible by 3.



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217. Which of the following is divisible by 2?

A. 41

B. 449

C. 573

D. 8096

Answer:



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218. Which of the following is divisible by 3?

A. 76

B. 123

C. 457

D. 9082

Answer:



219. Which of the following is divisible by 5?

A. 11

B. 1101

C. 1001

D. 1100

Answer:



220. Which of the following is divisible by 7?

A. 4277

B. 3513

C. 862

D. 4675

Answer:



221. Which of the following is divisible by 11?

- A. 12325
- B. 56478
- C. 13431
- D. 112

Answer:



222. Every palindrome number is diyis Ible by

A. 13

B. 17

C. 19

D. 11

Answer:



223. Which of the following is divisible by 9?

A. 1134

B. 1235

C. 1236

D. 1237

Answer:



224. 76104 is divisible by.....

A. 999

B. 877

C. 109

D. Both A & B

Answer:



225. 'The sum of the numbers which are divisible by 5 from 1 to 50 is

- A. 285
- B. 275
- C. 295
- D. 265

Answer:



226. If 7A - 16 = A9then A=

A. 3

B. 4

C. 5

D. 7

Answer:



- A. 2
- B. 4
- C. 6
- D. 8



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228. Which of the following divides $\left(n^3-n\right)$

A. 1

- B. 2
- C. 3
- D. 5



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229. If a number is divisible by '5' then its units digit be_____

A. 0

B. 5

C. A&B

D. None

Answer:



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230.
$$(a^3 - b^3) + (a - b) = \dots$$

A. (a-b)(
$$a^2 + ab + b^2 + 1$$
)

 $\mathsf{B.}\,a-ab+b^2$

C.
$$a^2-ab-b^2$$

D.
$$a-b^2$$



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231. Sum of first 'n' natural numbers is, __

A.
$$rac{n+3}{2}$$

B.
$$\frac{n}{2}$$

C.
$$\frac{n-1}{2^2}$$

D.
$$\frac{n(n+1)}{2}$$



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232. 24 P Jeaves remainder 1 if it is divided by 3 and leaves remainder 2, if it is divided by 5.

Find the value of P.

A. 2

B. 7

C. 10

D. 9

Answer:



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233. If 50B is divisible by 5 then B = ___

A. 0 or 5

B. 0 or 9

C. 1 or 6

D. 3 or 4

Answer:



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234. The largest number of two digits which is divisible by 2, 5, 10 is ____

A. 70

B. 80

C. 90

D. 60

Answer:



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235. 1,2, 3, 4, 6, 8, 12, 24 are the multiples

A. 24

B. 42

C. 13

D. 18



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A. 9

B. 10

C. 8

D. 15

Answer:

237.
$$2^2 + 2^3 + 2^4$$

A. 1004

B. 3010

C. 1204

D. 1024

Answer:



238. 32² _____

A. 766155

B. 766118

C. 166815

D. 766815

Answer:



239. Find the sum of Integers from 11 to 1000 which are divisible by 3.

- **A.** 7
- B. 6
- C. 10
- D. 9

Answer:



240. 2p-32=0 In this P= ____

A. 16

B. 40

C. 19

D. 12

Answer:



241. The number divisible by 2, 5 and 10 is

- A. a) 350
- B. b) 486
- C. c) 352
- D. d) None

Answer:



242. The general form of a four digit number a	a
p.g.r.a is	

A. 13

B. 11

C. 9

D. 10

Answer:



243. a b c is a 3 digited number then abc-a-b-c is divisible by `

- A. 114345
- B. 3572406
- C. 913462
- D. 3572406

Answer:





A. 3

B. 7

C. 4

D. 6

Answer:



245. 5A imes A = 399then the value of A=

A. 7

B. 5

C. 4

D. 3

Answer:



246. If the sum of the digits of a number is divisible by 3 then it is divisible by _____

- A. 0
- B. 3
- C. 2
- D. not defined

Answer:

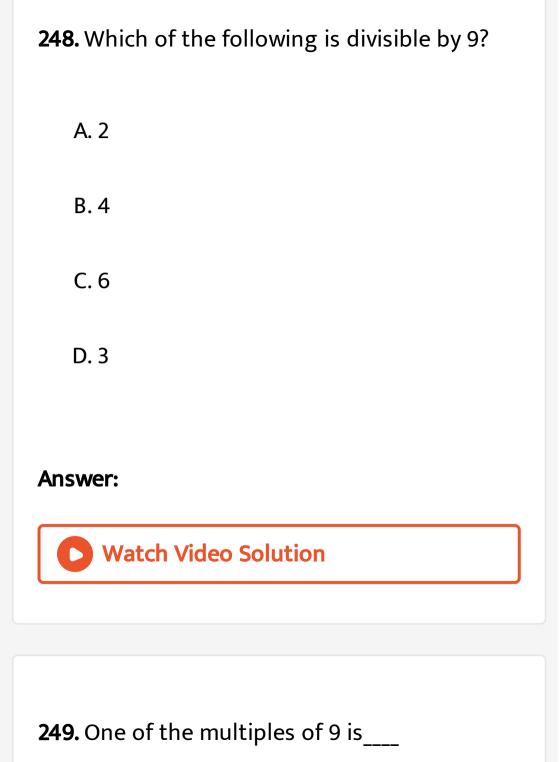


247. abc is a 3 digited number then abc + bca + cabis not divisible by ____

- A. 9
- B. 37
- C. 1
- D. 3

Answer:





- A. a) 37
- B. b) 45
- C. c) 78
- D. d) 47



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250.
$$\sum n =$$

A. 1

B. 9

C. 12

D. 10

Answer:



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251. 1+1 +.....+ 10 times = ____

A. -1

B. 2

C. 10

D. 9

Answer:



252.
$$1^2 + 2^2 + 3^2 +$$
___ $n^2 =$ _____

A.
$$\frac{n^2(n+1)^2(2n+1)}{6}$$

B.
$$\frac{n(n+1)(2n+1)}{6}$$

$$\mathsf{C.}\,\frac{n(n-1)}{2}$$

D. None

Answer:



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253. Which of the following is divisible by 11?

A. 151

B. 1331

C. 1211

D. 1334



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254. General form of an even number___

A.
$$1 + 2n$$

B.
$$\frac{n}{2}$$

$$\mathsf{D.}\,\frac{2}{n}$$

Answer:

255.
$$\sum n^3 =$$

A.
$$\frac{n^2(n+1)^2}{4}$$

$$\operatorname{B.}\frac{n(n+1)}{2}$$

C.
$$\frac{n(n-1)}{4}$$

D.
$$\frac{n(n+3)}{4}$$



