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| UBND HUYỆN TIÊN LÃNG  **TRƯỜNG THCS TIÊN HƯNG** | **ĐỀ THI CHỌN HỌC SINH GIỎI**  **MÔN: TOÁN TIẾNG ANH LỚP 8**  Năm học 2024 – 2025  *(Thời gian làm bài 120 phút)* |

***For questions 1 to 30, write you result on the exam paper***

**Question 1.** How many zeros are there in the last digits of the following number 

**Question 2.**Write 2013 as a sum of *m* prime number. The smallest value of *m* is?

**Question 3.** How many natural numbers *n* are there so that  is perfect square?

**Question 4.** Given the right triangle ABC,D is the mid-point of AB and  Find BC. 

**Question 5.** Find x, given that 

**Question 6.** Giventhe funtion **.** Find the value of *f(-1)?*

**Question 7:** The minium value of  is?

**Question 8:** The maximum value of  is?

**Question 9:** The number of solutions to the polynomial  is?

**Question 10:** The minium value of  is?

**Question 11:** Let M be ponit inside the rectangle ABCD that  Find the value of MD2.

**Question 12:** Given that  is divisible by  Find *a+b.*

**Question 13:** The positive value of *x* such that 

**Question 14:** Given two funtions  and . Find the value of *m* such that ?

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| **Question 15** . P is equidistant to AB, AC and BC. AB=12 and AC=5. Find r? |  |

**Question 16.** Find the remainder when 3810 divided by 13.

**Question 17. Find the smallest value of .**

**Question 18.** A triangle has three angles: the first, second ans third angle. The first angle is 660 and the second angle is twice the third angle. Find the measure of the sencond angle.

**Question 19.** Given a polynomial **** The value *P(x)* where *x= -1* is?

**Question 20:** Given a rectangle ABCD with AC=5cm. What is the length of the segment BD?

**Question 21.** Given that  Evaluate 

**Question 22.** Given **that ** Evaluate 

**Question 23.** Four apples cost 5$. The cost six dozen apples is?

**Question 24.** Five similar tables and 18 similar chair cost $594. The cost of one such table is the same as the cost of 3 such chairs. How much does each table cost? How much does each table cost?

**Question 25.** The smallest value of the funtion

where 

**Question 26.** How many axes of symmetry does the segment AB have?

**Question 27.** How many axes of symmetry does the uppercase letter A have?

**Question 28.** Given parallelogram ABCD with BD=9cm. Let I,K be respectively the midpoint of CD,AB. Diagonal BD intersect AI, CK resoectively at M and N. What is the length of MN?

**Question 29.** In ∆ABC, ; , AB < BC, D∈ BC: CD= AB. Find the value represented by ACB?

**Question 30.** Determine the integer part of A, where

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***For questions 31 to 33, write you answers on the exam paper***

**Question 31.** For every *n= 2, 3, …,* we put



Determine all positive integer such that  is an integer.

**Question 32.** Find all pairs of integer *(x,y)* satisfying the condition



**Question 33.** Let *ABC* be a triangle. Let *D, E* be the point out side of the triangle so that *AD=AB, AC=AE* and . Let *F s*ame side of the line *BC* with *A* so that *FB=FC* and  Prove that triangle *DEF* is right-isoceles triangle.

***The end.***

ANSWER AND MARKS

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| Question | Answer | Mark |
| 1 | 18 | 5,0 |
| 2 | 2 | 5,0 |
| 3 | 0 | 5,0 |
| 4 |  | 5,0 |
| 5 | 10 | 5,0 |
| 6 | -2 | 5,0 |
| 7 | 1.75 | 5,0 |
| 8 | 8.5 | 5,0 |
| 9 | 0 | 5,0 |
| 10 | 21 | 5,0 |
| 11 | 6 | 5,0 |
| 12 | 0 | 5,0 |
| 13 | 6 | 5,0 |
| 14 | 4 | 5,0 |
| 15 | 10 | 5,0 |
| 16 | 1 | 5,0 |
| 17 | 2 | 5,0 |
| 18 | 72 | 5,0 |
| 19 | 101 | 5,0 |
| 20 | 5cm | 5,0 |
| 21 | -1 | 5,0 |
| 22 | -9 | 5,0 |
| 23 | 7.5$ | 5,0 |
| 24 | 54$ | 5,0 |
| 25 |  | 5,0 |
| 26 | 2 | 5,0 |
| 27 | 1 | 5,0 |
| 28 | 3cm | 5,0 |
| 29 | 480 | 5,0 |
| 30 | 1 | 5,0 |
| 31 | Write A­n in the form    Hence,    It si follow  for *n=4.* | 10,0  20,0  20,0 |
| 32 | (1)  Since 3 and 28 are prime relative integers then  and then  with  Form (1), we get  and then  It follows  and  Hence,  and  Thus  and  It follows *n=0* and *n=1.*  For *n=0* we have  It follows *x=y=0.*  For n=1 then k=3 and we have  Hence the equation has 3 integer roots *x=y=0; x=1, y=8* and *x=-1, y=10.* | 20,0  10,0  20,0 |
| 33 | Since  Consequently BE=CD and  We have    Thus i.e.  On the other hand FC=FB, CD=BE, hence  It’s follows FE=FD and  So . | 50,0 |