|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **مدیریت آموزش و پرورش ناحیه دو ارومیه**   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | | | **دبیرستان:** | | | | |
| **نام:** | **سؤالات امتحانی حسابان 2** | | **روز:** | | | **ساعت :** |
| **نام خانوادگی:** | **دوازدهم رشته : ریاضی** | | | **تاریخ :** | **صفحه 1** | |

|  |  |  |
| --- | --- | --- |
| **رديف** | **ســـــــــــــــــــــــــؤالات مدت: 110 دقیقه** | **بارم** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **شکل مقابل نمودار تابع  است.**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   **نمودار تابع  را رسم کنید و**  **دامنه و برد تابع جدید را معین کنید.** | **5/1** |
| **2** | **تابع زیر را رسم کرده و تعیین کنید در چه بازه هایی صعودی اکید، نزولی اکید و ثابت است؟**     |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | | **2** |
| **3** | **آ) مقدار  را چنان بیابید که چند جمله ای  بر  بخشپذیر باشد.**  **ب) عبارت مقابل را ساده کنید.** | **2** |
| **4** | **دوره تناوب، ماکزیمم و مینیمم تابع مقابل را معین کنید.**  ................ ***min*:** ................ ***max*:** ................ ***T*:** | **75/0** |
| **5** | **در نمودار زیر ابتدا تعیین کنید ضابطه تابع به صورت  است یا  و سپس  را معین کنید.**  2-  6  3  6 | **25/1** |
| **ردیف** | **صفحه 2** | **بارم** |
| **6** | **جاهای خالی را با عبارات مناسب پر کنید.**  **آ) تابع تانژانت در هر بازه که در آن تعریف شده باشد** .................................... **است.**  **ب) تابع تانژانت در بازه** .................................... **است.**  **پ) در ربع اول مقدار تانژانت یک زاویه از مقدار سینوس همان زاویه** ................................... **است.**  **ت) در ربع چهارم مقدار تانژانت یک زاویه از مقدار سینوس همان زاویه** ................................... **است.** | **1** |
| **7** | **مقدار را محاسبه کنید.** | **1** |
| **8** | **اگر  و  حاده باشد، حاصل  را محاسبه نمایید.** | **5/1** |
| **9** | **معادله مثلثاتی مقابل را حل کنید.** | **5/1** |
| **10** | **آ) حد مقابل را محاسبه کنید.**    **ب) نمودار تابعی را رسم کنید که دامنه آن  بوده و دارای دو مجانب قائم باشد.** | **5/1** |
| **11** | **مجانب های قائم و افقی تابع  را در صورت وجود به دست آورید.** | **5/1** |
| **ردیف** | **صفحه 3** | **بارم** |
| **12** | **مفهوم گزاره مقابل را بیان کنید.** | **1** |
| **13** | **با توجه به نمودار داده شده حاصل حدهای زیر را به دست آورید.**   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |     **(ب   (آ**    **(ت   (پ** | **1** |
| **14** | **حد مقابل را محاسبه کنید.** | **1** |
| **15** | **نمودار تابع  را به گونه ای رسم کنید که همه شرایط زیر را داشته باشد.**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |   **آ)**  **ب)   و**  **پ) خط  مجانب افقی آن باشد.** | **5/1** |
| **جمع** | **گروه ریاضی متوسطه دوم ناحیه 2 ارومیه** | **20** |