**Контрольная работа**

**по математике в 9 классе**

Цель работы:

Проверить знания математической подготовки учащихся 9 класса с позиции Основного Государственного экзамена.

Содержание работы:

Контрольная работа по математике в 9 классе рассчитана на 45 минут. Работа состоит из двух частей. Первая часть содержит 8 заданий базового уровня, которые требуют краткого ответа, вторая – два задания повышенного уровня, для которых следует привести полное решение.

Оценивание работы:

Каждое задание первой части оценивается одним баллом. Во второй части – два балла. Вся работа оценивается двенадцатью баллами.

Перевод баллов в отметку:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| БАЛЛ | 0-4 | 5-7 | 8-10 | 11-12 |
| ОТМЕТКА | 2 | 3 | 4 | 5 |

**Контрольная работа**

**по математике в 9 классе**

1. Найдите значение выражения

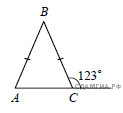
|  |
| --- |
| 1. На координатной прямой отмечены числа *а* и *b*. Какое из следующих чисел наибольшее?2.png |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **1)** | |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | |  | | --- | | *b* | | 2 | | | | **2)** | |  |  |  | | --- | --- | --- | | |  |  | | --- | --- | | − | *a* | | | **3)** | |  |  | | --- | --- | | |  | | --- | | *ab* | | | **4)** | |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | *a* | − | *b* | | | |

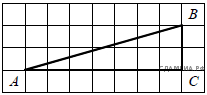
1. Решите уравнение  
   Если корней несколько, запишите их через точку с запятой в порядке возрастания.
2. Упростите выражение   
    и найдите его значение при t=3√5. В ответ запишите полученное число;

|  |
| --- |
| 1. Для каждой системы неравенств укажите множество её решений. |

+

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **СИСТЕМА НЕРАВЕНСТВ** |  | | **МНОЖЕСТВО РЕШЕНИЙ** | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **А)** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | { | |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | | *x* | > | − | 2, | | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | *x* | − | 4 | < | 0 | | | | | | | **Б)** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | { | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | 2 | − | *x* | > | 0, | | | |  |  |  | | --- | --- | --- | | *x* | > | 4 | | | | | | | **В)** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | { | |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | *x* | < | 2, | | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | *x* | + | 4 | < | 0 | | | | | | | |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **1)** | |  |  |  |  | | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | *x* | > | 4 | | | | **2)** | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | − | 2 | < | *x* | < | 4 | | | | **3)** | |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  |  |  |  | | --- | --- | --- | --- | | *x* | < | − | 4 | | | | **4)** | решений нет | | |  |

1. В равнобедренном треугольнике ABC с основанием AC внешний угол при вершине C равен 123°. Найдите величину угла ABC. Ответ дайте в градусах.
2. Найдите тангенс угла B треугольника ABC, изображённого на рисунке.



1. Товар на распродаже уценили на 20%, при этом он стал стоить 520 р. Сколько рублей стоил товар до распродажи?
2. Решите уравнение:
3. Катет и гипотенуза прямоугольного треугольника равны 18 и 30. Найдите высоту, проведённую к гипотенузе.