**Характеристика заданий суммативного оценивания за 1 четверть**

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| **Раздел** | **Проверяемая цель** | **Уровень мыслительных навыков** |
| **Степень с целым показателем** | 7.4.2.3 оценивать, как изменяются площадь квадрата и объём куба при изменении их линейных размеров | Навыки высокого порядка |
| 7.2.1.1 применять свойства степени с целым показателем при нахождении значений числовых выражений | Применение |
| 7.1.1.1 записывать числа в стандартном виде | Применение |
| 7.1.2.7 выполнять арифметические действия над числами, записанными в стандартном виде | Применение |
| **Многочлены** | 7.2.1.2 знать определение одночлена, находить его коэффициент и степень | Знание и понимание |
| 7.2.1.6 приводить многочлен к стандартному виду | Применение |
| 7.2.1.7 выполнять сложение и вычитание многочленов | Применение |
| 7.2.1.5 знать определение многочлена и находить его степень | Знание и понимание |
| 7.2.1.12 раскладывать алгебраические выражения на множители вынесением общего множителя за скобки и способом группировки | Применение |
| 7.2.1.13 выполнять тождественные преобразования алгебраических выражений с помощью действий над многочленами, разложения многочлена на множители | Применение |
| **ИТОГО:** |  | **20** |

Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ класс 7 «\_\_\_\_\_»

Суммативное оценивание за 1 четверть **1 вариант**

1. Среди представленных в таблице алгебраических выражений найдите одночлены. Запишите их в стандартном виде, укажите степень и коэффициент.

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| **Алгебраические выражения** | **Стандартный вид одночлена** | **Коэффициент одночлена** | **Степень одночлена** |
| $$10,2a^{2}cb^{3}$$ |  |  |  |
| $$5x+6a^{5}c$$ |  |  |  |
| $$\frac{4m^{2}c^{4}}{7k}$$ |  |  |  |

 2. Запишите математичекую модель задачи. Упростите полученные выражения.

 На рисунке представлен план дачного участка. Найдите площадь закрашенной области.

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| --- | --- | --- | --- | --- |
|  |  | 6а-5 |  |  |
|  |   |   |   |   |
|   |   |   |  5а |   |
|  |   |   |   |   |
| 4а |   |  2в |   |   |
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3. Запишите числа а= 2100000 и в=0,0007 в стандартном виде и найдите их произведение.

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. 4. Объем спальных комнат дома равен 3600 кубических метров. Известно, что на каждый кубический метр приходится 5,9\*109 частиц пыли. Определить сколько пыли присутствует во всех комнатах. Ответ записать в стандартном виде.

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5. Вычислить) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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ДЕСКРИПТОРЫ

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| № |  | балл |
| 1 | .- определяет одночлены | 1 |
| записывает одночлены в стандартном виде; | 1 |
| - находит коэффициент одночлена | 1 |
| - записывает степень одночлена | 1 |
| 2 | - использует формулу площади прямоугольника- | 1 |
| составляет выражение для нахождения площади; | 1 |
| выполняет умножение | 1 |
| записывает упрощенное выражение. | 1 |
| 3 | Записывает стандартный вид 1 числа | 1 |
| Записывает стандартный вид 2 числа | 1 |
| Находит произведение чисел | 1 |
| - записывает ответ в стандартном виде | 1 |
| 4 | Переводят объем в стандартный вид | 1 |
| Выполняют умножение одночленов | 1 |
| Записывают ответ в стандартном виде | 1 |
| 5 | определяет порядок действий | 1 |
| применяет свойства степени для преобразования выражений | 1 |
| определяет значение нулевой степени | 1 |
| выполняет сложение и вычитание  | 1 |
| находит ответ | 1 |
|  | всего | 20 |

Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ класс 7 «\_\_\_\_\_»

 Суммативное оценивание за 1 четверть **2 вариант**

1. Среди представленных в таблице алгебраических выражений найдите одночлены. Запишите их в стандартном виде, укажите степень и коэффициент.

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| --- | --- | --- | --- |
| **Алгебраические выражения** | **Стандартный вид одночлена** | **Коэффициент одночлена** | **Степень одночлена** |
| $$51,2х^{2}у5z$$ |  |  |  |
| $$4a-11a^{5}c$$ |  |  |  |
| $$\frac{5z^{3}l^{7}}{9l^{3}}$$ |  |  |  |

2.Запишите математичекую модель следующих задач. Упростите полученные выражения.

 На рисунке представлен план дачного участка. Найдите площадь закрашенной области.

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| --- | --- | --- | --- | --- |
|  |  |  | с+3в |  |
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|  |   |   |   |   |
|  |   |   | 2с |   |
| 6в |   |   |   |   |
|  |   |  в |   |   |

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3.Запишите числа а= 625000000 и в=0,000003 в стандартном виде и найдите их произведение

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5 Вычислить:. =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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ДЕСКРИПТОРЫ

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| № |  | балл |
| 1 | .- определяет одночлены | 1 |
| записывает одночлены в стандартном виде; | 1 |
| - находит коэффициент одночлена | 1 |
| - записывает степень одночлена | 1 |
| 2 | - использует формулу площади прямоугольника- | 1 |
| составляет выражение для нахождения площади; | 1 |
| выполняет умножение | 1 |
| записывает упрощенное выражение. | 1 |
| 3 | Записывает стандартный вид 1 числа | 1 |
| Записывает стандартный вид 2 числа | 1 |
| Находит произведение чисел | 1 |
| - записывает ответ в стандартном виде | 1 |
| 4 | Переводят объем в стандартный вид | 1 |
| Выполняют умножение одночленов | 1 |
| Записывают ответ в стандартном виде | 1 |
| 5 | определяет порядок действий | 1 |
| применяет свойства степени для преобразования выражений | 1 |
| определяет значение нулевой степени | 1 |
|  | выполняет сложение и вычитание  | 1 |
|  | находит ответ | 1 |
|  | всего | 20 |

**ХАРАКТЕРИСТИКА ЗАДАНИЙ СУММАТИВНОГО ОЦЕНИВАНИЯ**  за 2 четверть

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| **Раздел**  | **Проверяемая цель**  | **Кол. заданий\***  |
| **Функция.  График  функции**  | 7.4.1.5знать определение линейной  функции y=kx+b, строить её график и устанавливать его расположение в зависимости от значений k и b  | 1  |
| 7.4.1.7 определять знаки  k  и  b  линейной функции y=kx+b, заданной графиком  |
| 7.4.1.12 строить график функции  *у*=*кх*  (k≠0) и знать её свойства  | 1  |
| 7.4.1.9 задавать формулой линейную функцию, график которой параллелен графику данной функции или пересекает его  | 1  |
| 7.4.1.4 знать определение функции  y=kx, строить её график и устанавливать его расположение в зависимости от k  |  |
| 7.4.2.4 решать системы линейных уравнений графическим способом   | 1  |
| 7.4.1.6 находить точки пересечения графика линейной функции с осями координат (без построения графика)  | 1  |
| 7.4.1.5 знать определение линейной функции y=kx+b, строить её график и устанавливать его расположение в зависимости от значений k и b  |
| 7.4.1.8обосновывать взаимное  расположение графиков линейных функций в зависимости от значений их коэффициентов  |
| **Элементы статистики**   | 7.3.3.2 вычислять абсолютную и относительную частоты варианты  | 1  |
| 7.3.3.5 проверять данные таблицы на непротиворечивость  |
| 7.3.3.7 анализировать статистическую информацию, представленную в виде таблицы или полигона частот  | 1  |
| **ИТОГО:**  |   | **7**  |

## Задания суммативного оценивания за 2 четверть

## Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_\_» класс

**1 вариант**

1. (1 балл] Найдите значение коэффициента k, если известно, что график функции у = $\frac{k}{x}$ проходит через точку с координатами А (1; – 4).

 А) 4 В) 1 С) – 1 Д) – 4

1. [1балл] Найдите координаты точки пересечения функции у =  с осью абсцисс:

 А) ( 21; 0) В)  С)  Д) (21; 0)

1. [3 балла] Задайте формулой функцию, график которой проходит через точку (0; 3) и параллелен графику функции

 y = –5x.

1. [4балла] Социологи опросили 20 школьников, выясняя, сколько книг каждый из них прочел за прошедший месяц. Были получены следующие данные: 3, 0, 1, 5, 1, 2, 3, 3, 1, 1, 3, 0, 3, 4, 2, 4, 5, 5, 6, 2
2. постройте таблицу абсолютных частот и таблицу относительных частот;
3. укажите самое распространенное число прочитанных книг;
4. проверьте таблицу относительных частот на непротиворечивость

1. [3 балла] Решите графическим методом систему уравнений: 

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1. [4 балла] Результаты письменного экзамена

по математике (максимальный балл – 10) представлены полигоном абсолютных частот. Проанализируйте информацию и найдите:

 a) объем выборки;

1. балл, полученный большим количеством учеников
2. процент учащихся, имеющих высокий результат, если считать, что 8,9,10 баллов

– это высокий результат,

**7**. График функции заданной уравнением  пересекает ось абсцисс в точке с координатами (-3;0). а) найдите значение а;

в) запишите функцию в виде 

с) не выполняя построения графика функции, определите через какую четверть график не проходит

## Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_7 «\_\_\_\_\_» кл

## Задания суммативного оценивания за 2 четверть

## 2 вариант

1. [1балл] Найдите значение коэффициента k, если известно, что график функции у  проходит через точку с координатами А (2; – 3).

А) -6 В) 6 С) – 3 Д) 2

1. [1балл] Найдите координаты точки пересечения функции у =  с осью абсцисс:

А) ( 15; 0) В)  С)  Д) (15; 0)

1. [3 балла] Задайте формулой функцию, график которой проходит через точку (0; 2) и параллелен графику функции

 y = –6x.

1. [4 балла] Имеются данные о количестве дежурств 15 сотрудников кафедры за месяц 3 0 5 7 4 3 1 9 5 3 4 4 2 8 5
2. постройте таблицу абсолютных частот и таблицу относительных частот;
3. укажите самое распространенное количество дежурств;
4. проверьте таблицу относительных частот на непротиворечивость
5. [3 балла] Решите графическим методом систему уравнений: 

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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1. [4 балла] Результаты письменного экзамена по математике (максимальный балл – 10) представлены полигоном абсолютных частот. Проанализируйте информацию и найдите: a) объем выборки;
2. балл, полученный большим количеством учеников
3. процент учащихся, имеющих высокий результат, если считать, что 8,9,10 баллов – это высокий результат,



**7**. [4 балла] График функции заданной уравнением  пересекает ось абсцисс в точке с координатами (2;0).

а) найдите значение а;

в) запишите функцию в виде 

с) не выполняя построения графика функции, определите через какую четверть график не проходит

## ХАРАКТЕРИСТИКА ЗАДАНИЙ СУММАТИВНОГО ОЦЕНИВАНИЯ за 3 четверть

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| **Раздел** | **Проверяемая цель** | **Кол. заданий\*** |
| **Формулы сокращённого умножения** | 7.1.2.14 использовать формулы сокращённого умножения для рационального счёта | 1 |
| 7.2.1.15 выполнять тождественные преобразования алгебраических выражений с помощью формул сокращённого умножения | 1 |
| 7.2.1.10 знать и применять формулы сокращённого умножения  | 1 |
| 7.2.1.11 знать и применять формулы сокращённого умножения  |
| 7.2.1.14 раскладывать алгебраические выражения на множители с помощью формул сокращённого умножения |
| 7.4.2.2 решать текстовые задачи, с помощью составления уравнений и неравенств | 1 |
| **ИТОГО:** |  | **4** |

**Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_» класс**

**Суммативное оценивание за 3 четверть по предмету «Алгебра»**

**1 вариант**

1. Вычислите наиболее рациональным способом:

=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Разложите многочлен на множители: a) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3. Упростите выражение:  и найдите его значение при .

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4. Разность квадратов двух чисел равна 25, а сумма этих чисел тоже равна 25. Найдите эти числа.

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| **№** | **Ответ** | **Балл** | **Дополнительная информация** |
| 1 | Применяет формулу разности квадратов | 1 |  |
| Выполняет вычисления в числителе и знаменателе | 1 |  |
| Выполняет вычисления | 1 |  |
| Находит ответ | 1 |  |
| 2a | Выносит за скобку общий множитель | 1 |  |
| Применяет фомулу разности кубов | 1 |  |
| 2b | Применяет формулу квадрата разности | 1 |  |
| Выносит общий множитель за скобки | 1 |  |
| Представляет выражение в виде произведения | 1 |  |
| 3a | Применяет формулу квадрата разности (суммы) | 1 |  |
| Применяет формулу разности квадратов | 1 |  |
| Приводит подобные слагаемые | 1 |  |
| 3b | Подставляет значение вместо неизвестного  | 1 |  |
| Находит ответ | 1 |  |
| 4 | Записывает условие задачи | 1 | Принимать любые буквенные обозначения |
| Составляет систему уравнений | 1 |  |
| Применяет формулу разности квадратов | 1 | Принимать другой верный способ решения |
| Решает систему уравний | 1 |  |
| Находит первое значение | 1 |  |
| Находит второе значение | 1 |  |

**Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_» класс**

**Суммативное оценивание за 3 четверть по предмету «Алгебра»**

**2 вариант**

1. Вычислите наиболее рациональным способом:

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2. Разложите многочлен на множители: a) a) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3. Упростите выражение:  и найдите его значение при. 

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4. Разность квадратов двух чисел равна 64, а разность самих чисел равна 2. Найдите эти числа.

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| **№** | **Ответ** | **Балл** | **Дополнительная информация** |
| 1 | Применяет формулу разности квадратов | 1 |  |
| Выполняет вычисления в числителе и знаменателе | 1 |  |
| Выполняет вычисления | 1 |  |
| Находит ответ | 1 |  |
| 2a | Выносит за скобку общий множитель | 1 |  |
| Применяет фомулу разности кубов | 1 |  |
| 2b | Применяет формулу квадрата разности | 1 |  |
| Выносит общий множитель за скобки | 1 |  |
| Представляет выражение в виде произведения | 1 |  |
| 3a | Применяет формулу квадрата разности (суммы) | 1 |  |
| Применяет формулу разности квадратов | 1 |  |
| Приводит подобные слагаемые | 1 |  |
| 3b | Подставляет значение вместо неизвестного  | 1 |  |
| Находит ответ | 1 |  |
| 4 | Записывает условие задачи | 1 | Принимать любые буквенные обозначения |
| Составляет систему уравнений | 1 |  |
| Применяет формулу разности квадратов | 1 | Принимать другой верный способ решения |
| Решает систему уравний | 1 |  |
| Находит первое значение | 1 |  |
| Находит второе значение | 1 |  |

**ХАРАКТЕРИСТИКА ЗАДАНИЙ СУММАТИВНОГО ОЦЕНИВАНИЯ**

**4 четверть**

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| **Раздел** | **Проверяемая цель** | **Уровень мыслительных навыков** | **Кол. заданий\*** |
| **Алгебраические дроби** | 7.2.1.17 находить область допустимых значений переменных в алгебраической дроби | Применение | 1 |
| 7.2.1.18 применять основное свойство алгебраической дроби$$\frac{ac}{bc}=\frac{a}{b}, b\ne 0, c\ne 0$$ | Применение | 1 |
| 7.2.1.21 выполнять преобразования алгебраических выражений | Применение | 2 |
| 7.2.1.19 выполнять сложение и вычитание алгебраических дробей | Применение | 1 |
| 7.2.1.20 выполнять умножение и деление, возведение в степень алгебраических дробей | Применение | 1 |
| **ИТОГО:** |  |  | **6** |

**СОЧ-4 Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_\_» кл**

**1 ВАРИАНТ**

1. Из данных выражений укажите алгебраические дроби: [

$$А) \frac{1}{2}a^{2}b^{5}+3;B) 3a+b^{3}; C) \frac{3x-2y}{5x^{3}}; D) \frac{5b-y^{2}}{6};E)\frac{7x^{5}}{3y-x}$$

1. Найдите область допустимых значений алгебраического выражения

 $a) \frac{6x-12}{x^{2}-36}$ $b) \frac{2a-3}{9b^{2}+144}$

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1. Упростите выражение $\frac{х^{2}-8х+16}{2х-8}$ и найдите его значение при х = 5

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1. Выполните вычитание дробей $\frac{x^{2}-3xy}{x^{2 }- y^{2}}- \frac{y}{x-y}$

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1. Выполните деление алгебраических дробей $\frac{a^{2}-3a}{a^{2}-25} :\frac{a^{2}-9}{a^{2}+5a}$

6.Докажите, что при всех допустимых значениях b выражение $\left(\frac{b}{b^{2}-36}-\frac{b-6}{b^{2}+6b}\right):\frac{2b-6}{b^{2}+6b}-\frac{b}{b-6}=-1$

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_\_» кл**

**2 ВАРИАНТ**

1. Из данных выражений укажите алгебраические дроби:

$$А) a^{2}-b^{5};B) \frac{8x^{5}}{y+5x}; C) \frac{5x^{3}-2y}{3x}; D) \frac{b-3y^{2}}{2};E)a+5b^{3}$$

1. Найдите область допустимых значений алгебраического выражения

$a) \frac{x-12y}{y^{2}-16}$ $b) \frac{2a-3}{5a^{2}+121}$

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1. Упростите выражение $\frac{a^{2}+6a+9}{ 2а+6}$ и найдите его значение при а = 7

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1. Выполните сложение дробей: $\frac{c}{b-c}+ \frac{b^{2}}{b^{2 }- c^{2}}$

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1. Выполните деление алгебраических дробей: $\frac{3m^{2}-3n^{2}}{m^{2}+mp} :\frac{6m-6n}{p+m}$

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1. Докажите, что при всех допустимых значениях b выражение

$$\left(\frac{b}{b^{2}-64}-\frac{b-8}{b^{2}+8b}\right):\frac{2b-8}{b^{2}+8b}-\frac{b}{b-8}=-1$$

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **№** | **Ответ**  | **Балл** | **Дополнительная информация**  |
| 1 | Определяет алгебраические дроби | 1 | Если указывает только, один правильный ответ или оба правильные и один неправильный |
| 1 | Второй балл, если оба правильные |
| 2a | Определяет ОДЗ | 1 |  |
| *Записывает промежуток* | 1 |  |
| 2b | Определяет ОДЗ | 1 |  |
| 3 | Применяет ФСУ | 1 |  |
| Выполняет сокращение  | 1 |  |
| Находит ответ | 1 |  |
| 4 | Применяет ФСУ | 1 |  |
| Приводит к общему знаменателю | 1 |  |
| Находит ответ | 1 |  |
| 5 | Применяет ФСУ | 1 | Принимается любой вариант записи |
| Применяет правило деления дробей | 1 |
| Находит ответ | 1 |
| 6 | Применяет ФСУ | 1 |  |
| Применяет правило умножения | 1 |  |
| Находит ответ | 1 |  |
| Выполняет вычитание | 1 |  |
| Выполняет деление | 1 |  |
| Приходит к верному решению | 1 |  |
| **Итого:** | **20** |  |

**ХАРАКТЕРИСТИКА ЗАДАНИЙ СУММАТИВНОГО ОЦЕНИВАНИЯ**

**4 четверть**

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| **Раздел** | **Проверяемая цель** | **Уровень мыслительных навыков** | **Кол. заданий\*** |
| **Алгебраические дроби** | 7.2.1.17 находить область допустимых значений переменных в алгебраической дроби | Применение | 1 |
| 7.2.1.18 применять основное свойство алгебраической дроби$$\frac{ac}{bc}=\frac{a}{b}, b\ne 0, c\ne 0$$ | Применение | 1 |
| 7.2.1.21 выполнять преобразования алгебраических выражений | Применение | 2 |
| 7.2.1.19 выполнять сложение и вычитание алгебраических дробей | Применение | 1 |
| 7.2.1.20 выполнять умножение и деление, возведение в степень алгебраических дробей | Применение | 1 |
| **ИТОГО:** |  |  | **6** |

**СОЧ-4 Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_\_» кл**

**1 ВАРИАНТ**

1. Из данных выражений укажите алгебраические дроби: [

$$А) \frac{1}{2}a^{2}b^{5}+3;B) 3a+b^{3}; C) \frac{3x-2y}{5x^{3}}; D) \frac{5b-y^{2}}{6};E)\frac{7x^{5}}{3y-x}$$

1. Найдите область допустимых значений алгебраического выражения

 $a) \frac{6x-12}{x^{2}-36}$ $b) \frac{2a-3}{9b^{2}+144}$

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1. Упростите выражение $\frac{х^{2}-8х+16}{2х-8}$ и найдите его значение при х = 5

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1. Выполните вычитание дробей $\frac{x^{2}-3xy}{x^{2 }- y^{2}}- \frac{y}{x-y}$

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1. Выполните деление алгебраических дробей $\frac{a^{2}-3a}{a^{2}-25} :\frac{a^{2}-9}{a^{2}+5a}$

6.Докажите, что при всех допустимых значениях b выражение $\left(\frac{b}{b^{2}-36}-\frac{b-6}{b^{2}+6b}\right):\frac{2b-6}{b^{2}+6b}-\frac{b}{b-6}=-1$

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**Ф.И.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 «\_\_\_\_\_» кл**

**2 ВАРИАНТ**

1. Из данных выражений укажите алгебраические дроби:

$$А) a^{2}-b^{5};B) \frac{8x^{5}}{y+5x}; C) \frac{5x^{3}-2y}{3x}; D) \frac{b-3y^{2}}{2};E)a+5b^{3}$$

1. Найдите область допустимых значений алгебраического выражения

$a) \frac{x-12y}{y^{2}-16}$ $b) \frac{2a-3}{5a^{2}+121}$

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1. Упростите выражение $\frac{a^{2}+6a+9}{ 2а+6}$ и найдите его значение при а = 7

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1. Выполните сложение дробей: $\frac{c}{b-c}+ \frac{b^{2}}{b^{2 }- c^{2}}$

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1. Выполните деление алгебраических дробей: $\frac{3m^{2}-3n^{2}}{m^{2}+mp} :\frac{6m-6n}{p+m}$

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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1. Докажите, что при всех допустимых значениях b выражение

$$\left(\frac{b}{b^{2}-64}-\frac{b-8}{b^{2}+8b}\right):\frac{2b-8}{b^{2}+8b}-\frac{b}{b-8}=-1$$

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **№** | **Ответ**  | **Балл** | **Дополнительная информация**  |
| 1 | Определяет алгебраические дроби | 1 | Если указывает только, один правильный ответ или оба правильные и один неправильный |
| 1 | Второй балл, если оба правильные |
| 2a | Определяет ОДЗ | 1 |  |
| *Записывает промежуток* | 1 |  |
| 2b | Определяет ОДЗ | 1 |  |
| 3 | Применяет ФСУ | 1 |  |
| Выполняет сокращение  | 1 |  |
| Находит ответ | 1 |  |
| 4 | Применяет ФСУ | 1 |  |
| Приводит к общему знаменателю | 1 |  |
| Находит ответ | 1 |  |
| 5 | Применяет ФСУ | 1 | Принимается любой вариант записи |
| Применяет правило деления дробей | 1 |
| Находит ответ | 1 |
| 6 | Применяет ФСУ | 1 |  |
| Применяет правило умножения | 1 |  |
| Находит ответ | 1 |  |
| Выполняет вычитание | 1 |  |
| Выполняет деление | 1 |  |
| Приходит к верному решению | 1 |  |
| **Итого:** | **20** |  |