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1.

$f(x) = x^2 + 3x - 5$   
 $g(x) = 2x^2 - x + 1$   
 $(f+g)(x) = (x^2 + 3x - 5) + (2x^2 - x + 1)$   
 $= x^2 + 3x - 5 + 2x^2 - x + 1$   
 $= (x^2 + 2x^2) + (3x - x) + (-5 + 1)$   
 $= 3x^2 + 2x - 4$

2.

<p>-1.</p> $f(x) = x^2 + 3x - 5$ $g(x) = 2x^2 - x + 1$ $(f-g)(x) = (x^2 + 3x - 5) - (2x^2 - x + 1)$ $= x^2 + 3x - 5 - 2x^2 + x - 1$ $= (x^2 - 2x^2) + (3x + x) + (-5 - 1)$ $= -x^2 + 4x - 6$	<p>1.</p> $f(x) = x^2 + 3x - 5$ $g(x) = 2x^2 - x + 1$ $(fg)(x) = (x^2 + 3x - 5)(2x^2 - x + 1)$ $= x^2(2x^2 - x + 1) + 3x(2x^2 - x + 1) - 5(2x^2 - x + 1)$ $= 2x^4 - x^3 + x^2 + 6x^3 - 3x^2 + 3x - 10x^2 + 5x - 5$ $= 2x^4 + (-x^3 + 6x^3) + (x^2 - 3x^2 - 10x^2) + (3x + 5x) - 5$ $= 2x^4 + 5x^3 - 12x^2 + 8x - 5$
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1.

$f(x) = x^2 + 3x - 5$   
 $g(x) = 2x^2 - x + 1$   
 $(f \cdot g)(x) = (x^2 + 3x - 5)(2x^2 - x + 1)$   
 $= x^2(2x^2 - x + 1) + 3x(2x^2 - x + 1) - 5(2x^2 - x + 1)$   
 $= 2x^4 - x^3 + x^2 + 6x^3 - 3x^2 + 3x - 10x^2 + 5x - 5$   
 $= 2x^4 + (-x^3 + 6x^3) + (x^2 - 3x^2 - 10x^2) + (3x + 5x) - 5$   
 $= 2x^4 + 5x^3 - 12x^2 + 8x - 5$

2.

$f(x) = x^2 + 3x - 5$   
 $g(x) = 2x^2 - x + 1$   
 $(f-g)(x) = (x^2 + 3x - 5) - (2x^2 - x + 1)$   
 $= x^2 + 3x - 5 - 2x^2 + x - 1$   
 $= (x^2 - 2x^2) + (3x + x) + (-5 - 1)$   
 $= -x^2 + 4x - 6$

4

	f	f			
			f		
1.	-	34	8	16	10
2.		38	8	18	12
	f	72	16	34	22

5

1. f
  2. .
  3. .
  4. x
  5. .
  7. .
  8. -
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[www.cdo.smolgu.ru](http://www.cdo.smolgu.ru)  
 PTC Mathcad 15.0 MS Excel.

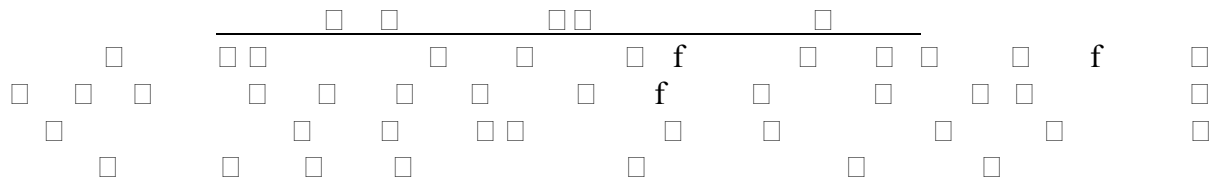
-3. Основные понятия теории антагонистических игр

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
7. f
- 8.
- 9.
10. f f

- $f: A \rightarrow B$   $f: A \rightarrow B$
- $f: A \rightarrow B$   $f: A \rightarrow B$
- $f: A \rightarrow B$   $f: A \rightarrow B$

**4-6. Решение игр  $2 \times 2$**

1.  $f: A \rightarrow B$
2.  $f: A \rightarrow B$
3.  $f: A \rightarrow B$
4.  $2 \times 2$



**7-8. Биматричные игры. Равновесие Нэша**

1.  $f: A \rightarrow B$
2.  $f: A \rightarrow B$
3.  $f: A \rightarrow B$
4.  $f: A \rightarrow B$
5.  $f: A \rightarrow B$
6.  $2 \times 2$
7.  $f: A \rightarrow B$

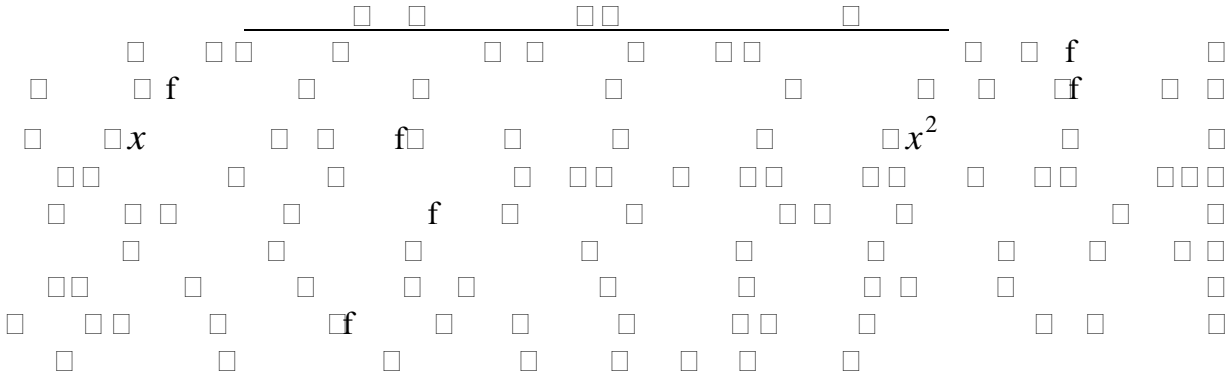
	2	-3
	-1	1

	1	-3
	-1	2

**9-10. Кооперативные игры**

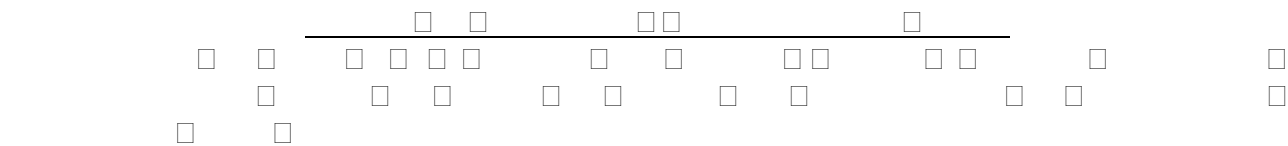


1.  $f$   $f$   $f$
2.  $f$
3.  $f$
4.  $f$
5.  $f$



**11-12. Задача голосования. Правила голосования**

1.  $f$
2.  $f$
3.  $f$
4.  $f$




**13-14. Коалиции и влияние групп**

1.  $f$
2.  $f$
3.  $f$
4.  $f$
5.  $f$
6.  $f$

1. (51; 50, 30, 20).
2. (60; 39, 20, 41).

15-17. Различные индексы влияния

1.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i}$
2.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$
3.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot \frac{1}{f}$
4.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot \frac{1}{f^2}$
5.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot \frac{1}{f^3}$
6.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} -$
7.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} -$

1.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot \frac{1}{f}$  -  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot \frac{1}{f}$

$(60; 39, 20, 41)$   $(40; 45, 20, 10)$ .

$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

$f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

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6.

$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$   $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

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I.

1.  $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i}$	$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$	$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f^*$
1	$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$	$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$
2	$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$ $\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$	$\frac{\sum_{i=1}^n x_i^2}{\sum_{i=1}^n x_i} \cdot f$

- (\*) f
2. f f

**II.**

- f f
- www.cdo.smolgu.ru).
1. f f
2. f
3. f
4. f
5. f f f x x<sup>2</sup> f

1.

1		
2		
3		
4		
5		

- (\*) f
2. f

1		4,75-5
2		3,75-4,5
3		3-3,5
4		3

- f
- 1.
- 2.
- 3.







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Kaspersky Endpoint Security □ f □  
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Microsoft Open License, f 49463448 : Microsoft Windows Professional  
7 Russian; Microsoft Office 2010 Russian.  
MS Excel 2003/2007.  
PTC Mathcad 15.0 ( f 449732).

ДОКУМЕНТ ПОДПИСАН  
ЭЛЕКТРОННОЙ ПОДПИСЬЮ

Сертификат: 03B6A3C600B7ADA9B742A1E041DE7D81B0  
Владелец: Артеменков Михаил Николаевич  
Действителен: с 04.10.2021 до 07.10.2022