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«\_» \_\_\_\_\_ 20\_ .

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*09.02.06* «  
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2021

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09.02.06 «

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.

## СОДЕРЖАНИЕ

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# Структура практического занятия

1

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«Windows»

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«Windows.

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- 1.
- 2.
- 3.
- 4.
- 5.

( ) —

( )

( ).

5 - 40%,

— 60 - 90%.

( )—

SFX- (Self-eXtracting).

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- 
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1.

20% 90%

2.

3.

4.

5.

4.

1.

1.

Archives,

Windows

Pictures Documents.

2. Pictures \*.jpg  
 \*.bmp.  
 3. \*.bmp \*.jpg. 1.  
 4. Documents \*.doc ( 3)  
 \_1.

2. WinZip

1. WinZip 7. ( > > 7-Zip>7 Zip File Manager).  
 2. , :  
 ...\ \Archives\Pictures.  
 .jpg. (+).  
 3. Zip. - .zip ,  
 4. :  
 5. :  
 6. .  
 \_1.  
 7. 1.zip, . : ,  
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 , " \* " .  
 , ( )  
 . -  
 8. 1.zip, . - -  
 ... \Archives\Pictures\ 1\.  
 9. . ,  
 10. ,  
 11. ,  
 12. .  
 13. ZIP- .  
 .zip, (+).  
 14. - .7z ,  
 7z. :  
 15. :  
 16. SFX- .  
 17. .  
 18. .bmp, 1.doc,  
 2.doc, 3.doc.  
 \_1.

3. WinRAR

1. WinRar ( > > WinRar).
2. , :
3. \Archives\Pictures. .jpg.
4. .rar. - RAR, -
5. .bmp, 1.doc, 2.doc, 3.doc.
6. 1. RAR - ,
7. P=S/S<sub>0</sub>, S - \_1. , So -

1

		WinZip		WinRar
:				
1.	1.doc			
2.	2.doc			
3.	3.doc			
:				
1.	.jpg			
2.	.bmp			
( )				
( )				

5.

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1. .
2. .
3. .
4. .

6.

1. ? ? ?
2. , ? ?
3. ?



, WordPad»  
, WordPad.

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

- 1.
- 2.
- 3.
- 4.
- 5.

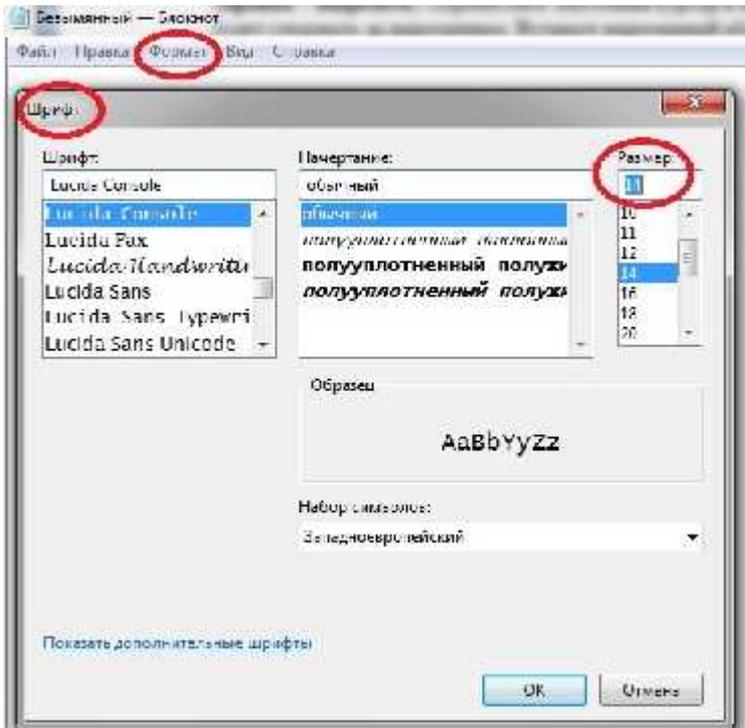
1

- 1.



- 2.

14



- 3.

SHIFT.

ENTER.

- 4.

- 5.

2



1. WordPad ( - - - WordPad).
  2. ( - - - )
  3. - ). ( - ).
  4. (\* bt).
  5. « », .
  6. « ». ,
- SHIFT
- 3

1. , .
  2. SHIFT + CTRL + . ( - ).
- 4

« » ( 16 , Arial).  
( , ).

1. CTRL + HOME,  
« ».
2. 16 Arial ( )  
( ).
3. CTRL + TND,
- 4.
5. ( )



6.



- 7.
8. WordPad.

3

: «

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 \_\_\_\_\_ -  
 \_\_\_\_\_ - .....  
 \_\_\_\_\_ -  
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- 1.
- 2.
- 3.
- 4.
- 5.

- 1.
2. ( - ).
3. . 1 ( )  
 ).  
 1

1	$\frac{1699,056}{173,48 + 124,6} + \frac{173,48 + 124,6}{16,2}$	2	$1 - \frac{17,568}{25,68 - 9,256}$
3	$1 + \frac{1549,5}{123,56 + 56,35}$	4	$\frac{563,78}{98,36} + \frac{156,36}{12,356 + 45,68}$
5	$\frac{189,56 + 43,56}{25,9} - 1$	6	$\frac{699,056}{73,48 + 24,6} + \frac{73,48 + 24,6}{16,2}$
7	$\frac{189,56 + 43,56}{45,36} - 25,3 * 5$	8	$\frac{89,36}{25,89 - 15,89} - \frac{24,89 + 1,11}{12}$
9	$\frac{189,36}{125,89 - 26,89} - \frac{124,89 - 1,11}{125}$	10	$\frac{199,56}{73,5 + 12,5} + \frac{73,48 + 24,6}{42,2}$
11	$\frac{1563,78}{198,36} - \frac{156,36}{12,356 + 45,68}$	12	$199,56 : 12,5 - \frac{73,48 - 24,6}{24,8}$
13	$1 - \frac{14,56,3}{123, - 189,35}$	14	$\frac{181,5}{123,56 - 46,5} - \frac{12,36 + 45,48}{17,5}$

: « Paint»

Paint.

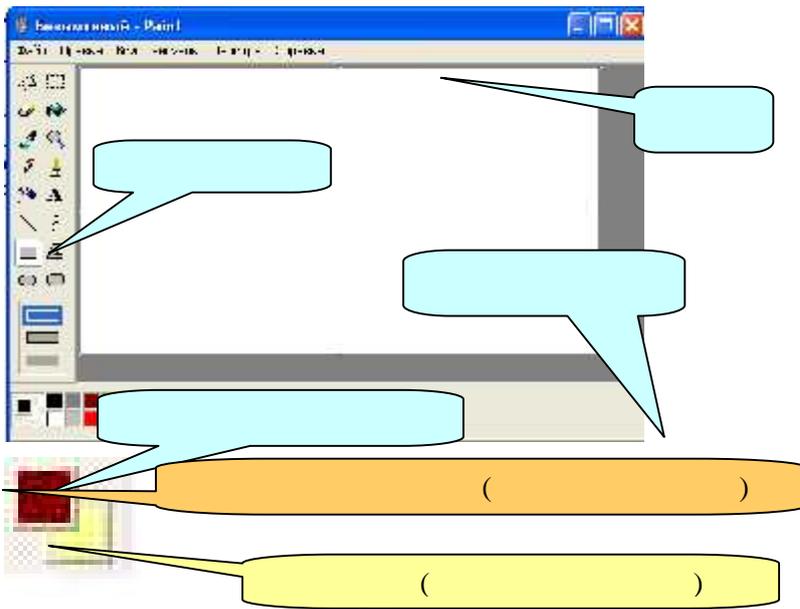
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- 1.
- 2.
- 3.
- 4.
- 5.

Paint



→ Paint.



**Освоение инструментов рисования.**

- |  |                                |  |                                 |
|--|--------------------------------|--|---------------------------------|
|  | Выделение произвольной области |  | Выделение прямоугольной области |
|  | Ластик                         |  | Заливка краской                 |
|  | Выбор цвета                    |  | Лупа                            |
|  | Карандаш                       |  | Кисть                           |
|  | Распылитель                    |  | Текст                           |
|  | Линия                          |  | Кривая                          |
|  | Прямоугольник                  |  | Многоугольник                   |
|  | Эллипс                         |  | Скругленный прямоугольник       |

1.



Paint.

900 600

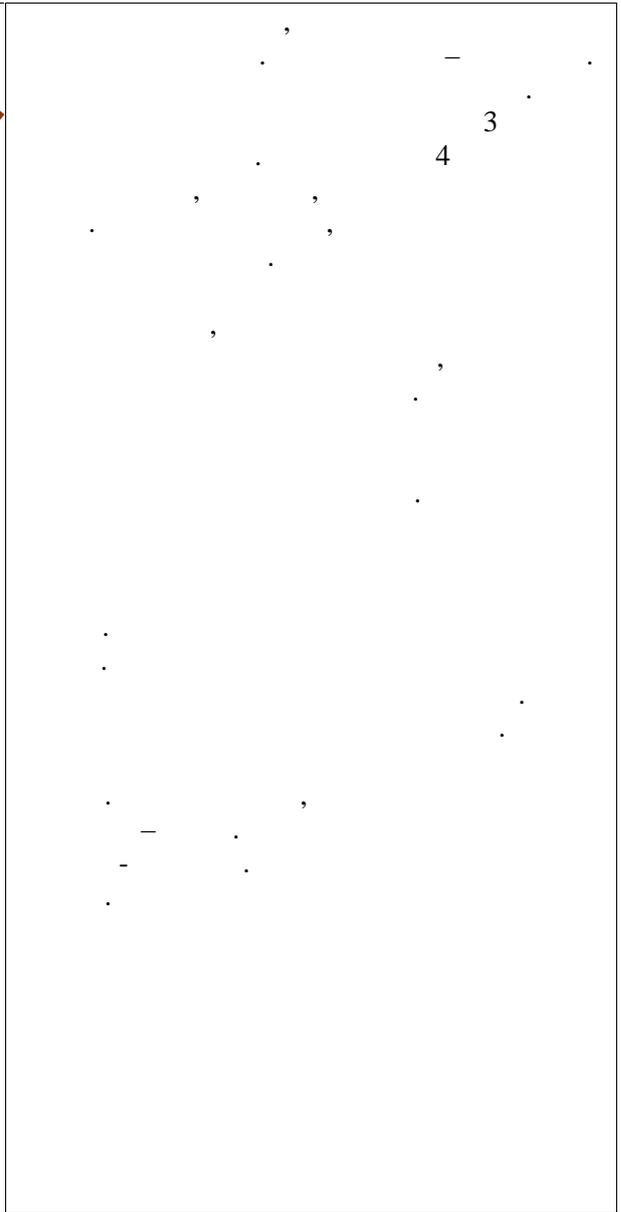
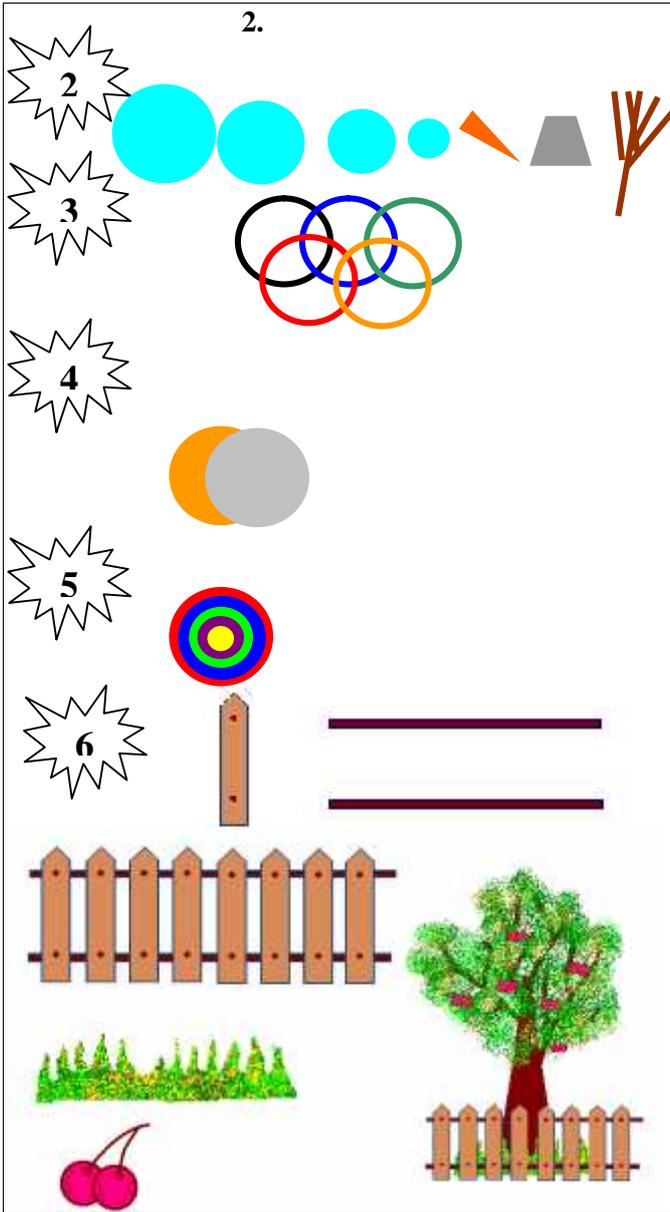


Delete.



Shift,

Ctrl,



: «

Word »

Word.

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- 1.
- 2.
- 3.
- 4.
- 5.

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1.

Word

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**Миссия “Kodak” – “доверьте свои воспоминания Кодаку”.**

**Миссия “Coca-Cola” – просто протяните руку, чтобы Кола стала доступна Вам.**

2.

Word

2-3,

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22

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\_\_\_\_\_: ☎ -- (017) 2 22 22 22  
(017) 3 33 33 33,  
(017) 4 44 44 44

 -- (017) 5 55 55 55

 -- [Abc@sdf.bsu.Minsk.By](mailto:Abc@sdf.bsu.Minsk.By)

: « Word

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- 2.
- 3.
- 4.
- 5.

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**Внимание участников семинара!**

*К главному корпусу университета можно проехать:*



от аэропорта Минск-1

трот. № 2, 18 до остановки «Площадь Независимости»



от аэропорта Минск-2

автобус-экспресс до остановки «Аэровокзал Минск»



от автовокзала «Восточный»

авт. № 8, 79, 42, 43

трот. № 20, 30, 3, 16



от автовокзала «Центральный»



от железнодорожного вокзала

можно пройти пешком к Площади Независимости

2

Word

- 
- 
-

### СТРУКТУРНАЯ СХЕМА МИКРОКОМПЬЮТЕРА



: «

Excel»

Excel.

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- 1.
- 2.
- 3.
- 4.
- 5.

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**Excel»**

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Excel.

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- 1.
- 2.
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- 5.

**PowerPoint»**

PowerPoint.

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- 4.
- 5.

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**PowerPoint»**

PowerPoint.

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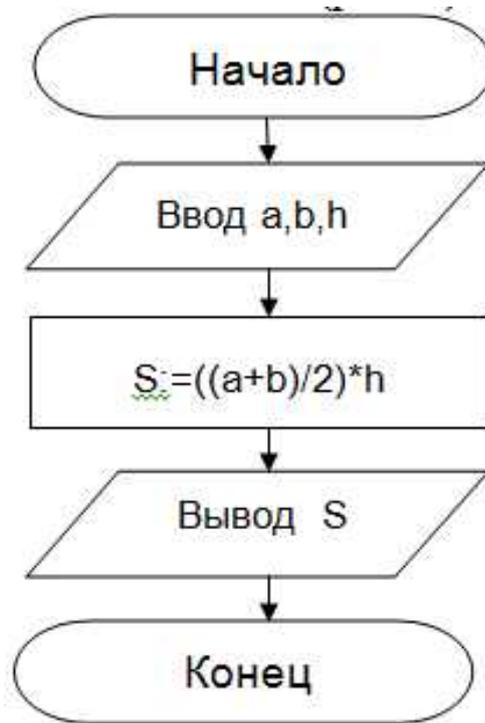
- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.

2 .  
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, - 1 ,  
 2. - 0.  
 100 .

1. 0+1=1
2. 1+1=2
3. 2+1=3
4. 3\*2=6
5. 6\*2=12
6. 12\*2=24
7. 24+1=25
8. 25\*2=50
9. 50\*2=100





1. - :  
- :

2.  
3.

4. , a  
(a/b)

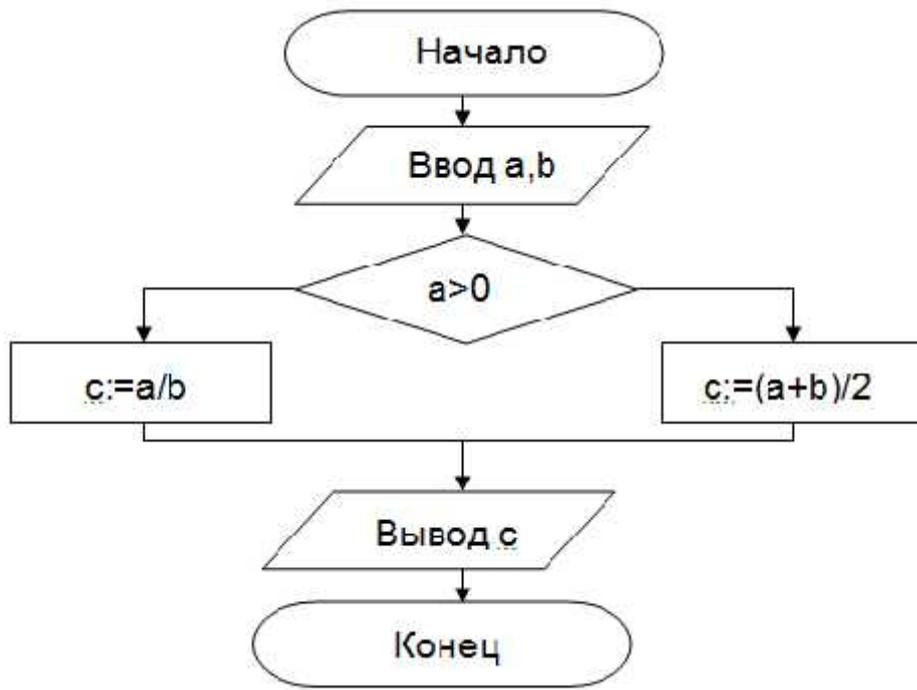
\_\_\_ a,b,c

\_\_\_ a,b  
\_\_\_ a>0

\_\_\_ :=(a+b)/2  
\_\_\_ :=a/b

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

- ( . 2):



2. -

- 4.
- 5.

- :  
 $Y = |x|$   
 (x,y)

:«

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- 3.
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- 5.

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1.

2.

3.

4.

5.

1)  $\frac{1}{5} + \frac{1}{6} + \frac{1}{7} + \frac{1}{8} + \frac{1}{9}$

2)  $2^2 + 3^2 + 4^2 + 5^2 + 6^2$

3)  $\frac{1+2}{3+4} : \frac{5+6}{7+8}$

4)  $\frac{2^3 + 3^2 + 4^3}{9^3 + 5 * 6 * 7}$

5)  $10 * \sqrt{25+11}$

6)  $(7^3 + 9^4)^2$

7)  $(7^3 + 9^4)^4$

8)  $\sqrt{\frac{2^2+3}{\sqrt{3^2+2}}}$

9)  $\frac{a + \sin^3 b^2}{\cos 25 + \operatorname{ctg} 60}$

10)  $\frac{\sqrt{\frac{xb}{a} + \cos^2(x+b)^3}}{\frac{x^2(x+1)}{b} - \sin^2(x+a)}$

11)  $\frac{1}{2 + \frac{3}{4 + \frac{5}{6 + \frac{7}{8}}}}$

12)  $\sqrt{2^3 + \sqrt{3}}$

13)  $\frac{\sqrt{6}}{(5 - \sqrt{8})^3}$

14)  $81 - 0,25$

15)  $\sqrt{3 + \sqrt{3 + \sqrt{3 + \sqrt{3}}}}$

16)  $\sqrt{12^2 + 5^2}$

$$x_{1,2} = \frac{b \pm \sqrt{b^2 - 4ac}}{2a}$$

```

_____ : « _____ , _____ »
_____ ; _____ , _____ .
_____ - _____ .....
_____ - _____
_____ - _____
_____ - _____

```

1. \_\_\_\_\_ , \_\_\_\_\_ ,
2. \_\_\_\_\_ .
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_ , \_\_\_\_\_ ,

```

_____ - _____
_____ ( _____ , _____ ).
Write(y1, y2,...);
Writeln(y1, y2,...)
  y1, y2,... - _____
  , writeln(' _____ ', sum);

```

```

1.
program WriteThree;
var
  a, b, c: integer;
begin
  readln(a, b, c);
  writeln(c, ' ', b, ' ', a)
end.

```

2. \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

```

Writeln(y1:w:d, y2:w:d,...);
  w _____ ; d - _____
  , c:=1.234; writeln('C=', c:7:2);
  =__1.23

```

```

:= _____ ;
: sort:=1; cena:=12.34; x:=x+1; y:=x;

```

```

i:=j:=k:=0; i:=0; j:=0; k:=0;

```

```

Z:= (x-3y)*2+7

```

```

:
X:=15;
Y:=2;
Z:=(x-3*y)*2+7;
: z ? 25
: , z? 7

```

1.                   :  
       a := 5;  
       a := a + 6;  
       b := -a;  
       c := a - 2\*b;

2.                   )  
       )                   D -                   ;  
       )                   4.                   ;

256.                   ,

```

program SqrOfNum;
var
  a: integer;
begin
  readln(a);
  a := a * a;
  writeln(a);
end.

```

1.                   :  
 2.                   ,  
 3.                   (                   ,45                   ).  
 «                   -                   » - 420                   ,53  
 4.                   ,  
 5.                   ?                   ,                   68

: « »  
 \_\_\_\_\_ :  
 \_\_\_\_\_ -  
 \_\_\_\_\_ - .....  
 \_\_\_\_\_ -  
 \_\_\_\_\_

- 1.
- 2.
- 3.
- 4.
- 5.

**Задачи на линейные алгоритмы**

1 a, b, c

$$V = abc$$

$$S = 2(ab + bc + ac).$$

2 a, b, .

3

4 p

$$r. (P = 2\pi R).$$

5

$$(S_1 = a^2),$$

$$(S_2 = b^2)$$

$$(V = a^3).$$

6

n  
3800

1200 . k

7

$$S = \frac{a+b}{2} \sqrt{c^2 - \frac{(a-b)^2}{4}}$$

a, b, c

8

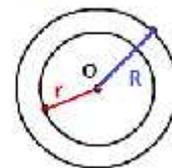
9

60 / .

15 / .

2

Площадь кольца



R радиус внешней окружности  
 r радиус внутренней окружности

рис. 3.14

Формула площади кольца (S).

$$S = \pi(R^2 - r^2)$$

: «

»

\_\_\_\_\_ :  
 \_\_\_\_\_ -  
 \_\_\_\_\_ - .....  
 \_\_\_\_\_ -  
 \_\_\_\_\_

- 1.
- 2.
- 3.
- 4.
- 5.

1.

14 , 18 , 2 , 4

2.

900 ?

3.

(S

4.

= 2 R h).

5.

(S = D2).

6.

7.

8.

V1

t1 V2

t2.

9.

10.

2-

11.

h.

12.

13.

2-

14.

F

m1 m2 ,

r

2-

: « »

```

_____ :
_____ -
_____ -
_____ -
_____ -
_____ -

```

- 1.
- 2.
- 3.
- 4.
- 5.

```

procedure Line(x1,y1,x2,y2: integer); - (x1,y1)
    (x2,y2).
procedure LineTo(x,y: integer); - (x,y);
    (x,y).

```

```

procedure Circle(x,y,r: integer); - (x,y) r.
procedure Ellipse(x1,y1,x2,y2: integer); - ,
    (x1,y1) (x2,y2).

```

```

procedure Rectangle(x1,y1,x2,y2: integer); - ,
    (x1,y1) (x2,y2).

```

```

procedure TextOut(x,y: integer; s: string); - s (x,y) (x,y)
    s).
procedure FloodFill(x,y,color: integer); - color,
    (x,y).

```

|                    |                       |
|--------------------|-----------------------|
| <b>clBlack</b> –   | <b>clAqua</b> –       |
| <b>clPurple</b> –  | <b>clOlive</b> –      |
| <b>clWhite</b> –   | <b>clFuchsia</b> –    |
| <b>clMaroon</b> –  | <b>clTeal</b> –       |
| <b>clRed</b> –     | <b>clGray</b> –       |
| <b>clNavy</b> –    | <b>clLime</b> –       |
| <b>clGreen</b> –   | <b>clMoneyGreen</b> – |
| <b>clBrown</b> –   | <b>clLtGray</b> –     |
| <b>clBlue</b> –    | <b>clDkGray</b> –     |
| <b>clSkyBlue</b> – | <b>clMedGray</b> –    |
| <b>clYellow</b> –  | <b>clSilver</b> –     |
| <b>clCream</b> –   |                       |

```

procedure SetFontColor(color: integer); -
procedure SetFontSize(sz: integer); -
procedure SetFontName(name: string); -
_____ :

```

```

fsNormal – ;
fsBold – ;
fsItalic – ;
fsBoldItalic – ;
procedure SetWindowSize(w,h: integer); -
procedure SetWindowTitle(s: string); -
SetWindowCaption.

```

```

uses graphabc;
begin
setwindowsize (640,480);
setwindowtitle (' ');
setpencolor (clbrown);
setpenwidth (2);
Circle(320,240,200);
floodfill(150,250,clred);
Rectangle(150,200,500,300);
textout (20,20,'STOP!');
end.

```

III.

```

1.
2.
) (x, y) (x+a, y) (x,
y+b)
) (x+a, y) (x, y+b).

```

IV.

integer.

V.

```

uses graphabc; Var a,b,x,y:integer;

```

```

begin

```

```

write(' e '); readln(x,y); write(' e '); readln(a,b);

```

```

setwindowsize (420,250); setwindowtitle (' ');

```

```

line(x,y,x+a,y); line(x,y,x,y+b); line(x+a,y,x,y+b);

```

```

end.

```

- 3.
- 4.
- 5.

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```

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_____ :
_____ -
_____ - .....
_____ -
_____

```

- 1.
- 2.
- 3.
- 4.
- 5.

```

1.
2.
3.
( 3).

```

III.

- 1.
- 2.

IV.

integer.

V.

**uses** graphabc; **Var** x1,y1, x2,y2, x3,y3,c:integer;

**begin**

```

write(' e '); readln(x1,y1);
write(' e '); readln(x2,y2);
write(' e '); readln(x3,y3); write(' e ');
readln(c);

```

```

setwindowsize (420,250);
setwindowtitle ('T ');
SetPenWidth(c); line(x1,y1,x2,y2);
line(x2,y2,x3,y3); line(x3,y3,x1,y1);

```

**end.**

- 1.
  - 2.
  - 3.
- ( )

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: if then ;

**Program** seasons;

**var** a : Integer;

**Begin**

  write(' ');

  readLn(a);

  if (a > 2) and (a < 6) then write(' ');

  if (a > 5) and (a < 9) then write(' ');

  if (a > 8) and (a < 12) then write(' ');

  if (a < 3) or (a = 12) then write(' ');

  readLn;

**End.**

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**Критерии оценки:**

|   |     |     |   |
|---|-----|-----|---|
| « | » - | 50% | ; |
| « | » - | 70% | ; |
| « | » - | 90% | ; |

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1. . . . : . . . .  
- .: « », 2020. – 352 .
  2. . . . : - ,  
. . . . - , 2020. – 148 .
  3. . . . , . . . .  
: . - .: « », 2018. – 352 .
  4. . . . , . . . . Free Pascal Lazarus.  
. - .: , 2020. – 442 .