1.

	+		−		=	11
÷		+		÷		
A	x	B	x	C	=	24
+		+		+		
	+		x		=	49
=		=		=		
6		24		D		

1 dan 9 gacha bo'lgan raqamlar bo'yalmagan qutilarga faqat bir marta yozilib quyidagi jadval hosil qilinadi. Ushbu jadvaldan foydalanib, $A+B+C+D$ ni qiymatini toping?

A) 9 B) 12 C) 17 D) 19

2. $2016 \cdot (2017 \cdot 2018 + 1)$ ni hisoblang?

A) $2016^3 + 1$ B) $2017^3 - 1$

C) $2018^3 + 1$ D) $2017^3 + 2016$

3.Ifodani soddalashtiring: $\frac{(a+1)^3+1}{a^3-1}$

A) $\frac{a+2}{a-1}$ B) $\frac{a+1}{a-1}$ C) $\frac{a-2}{a+1}$ D) $\frac{a-1}{a+1}$

4. Agar EKUB$(a\,;\ a+1) = 2a-15$ bo'lsa, EKUB$(a+2\,;a-3)$ ni toping?

A) 2 B) 3 C) 5 D) 4

5. Ushbu

$$\left(\sqrt{6+\sqrt{35}}\right)^x + \left(\sqrt{6-\sqrt{35}}\right)^x = 12$$

tenglamani ildizlari ko`paytmasini toping.

A) -4 B) -3 C) -1 D) 8

6. Agar $f(2x-1) = \begin{cases} x+1\,, & x>1 \\ x^2\,, & x\le 1 \end{cases}$ bo'lsa, $f(3)+f(-3)$ ni toping?

A) 1 B) 4 C) 7 D) 13

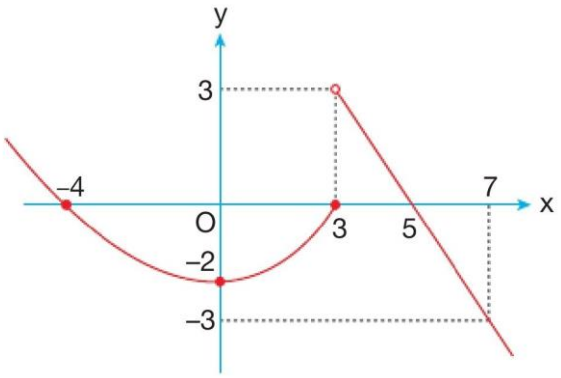
7. Ushbu $\left(4x^2 - \frac{1}{\sqrt{2}}y\right)^9$ ifodani ochib chiqqanimizda bitta hadi $A \cdot x^n y^n$ bo'lsa, A ni toping?

A) $-8C_9^6$ B) $4C_9^6$ C) $-4C_9^6$ D) $8C_9^6$

8. Ushbu $P(x) = (x-1)^{12} + (x+1)^{12}$ ko'phadni $x^2 - x + 1$ ko'phadga bo'lgandagi qoldiqni toping?

A) $3^6 - 1$ B) $3^6 + 1$ C) $2^6 - 1$ D) $2^6 + 1$

9. Quyidagi rasmda $y = f(x)$ funksiyaning grafigi tasvirlangan.



Bunga ko'ra, $\frac{f(5)-f(7)+2f(3)}{3f(0)-2f(-4)}$ ni qiymatini toping? A) $-\frac{3}{2}$ B) -1 C) $-\frac{1}{2}$ D) 2

10. $\frac{n^2+2017n+2018}{n}$ ifoda natural son bo'ladigan n ning nechta tub qiymati bor?

A) 2 B) 4 C) 3 D) 1

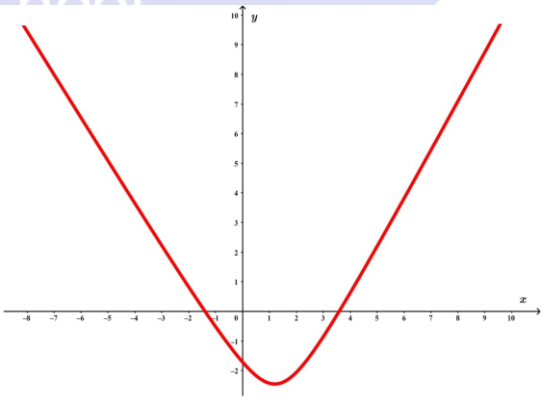
11. $x^2(|x-3|+1) = 6x-9$ tenglama nechta haqiqiy yechimga ega?

A) 0 B) 2 C) 4 D) 1

12. Arifmetik progressiyada $\begin{cases} a_1 \cdot a_4 = 22 \\ a_2 \cdot a_3 = 40 \end{cases}$ bo'lsa, a_{12} ning qabul qila oladigan qiymatlari yig'indisini toping?

A) 57 B) -57 C) 22 D) 0

13. Quyidagi chizmada $y = ax^2 + bx + c$ funksiyaning grafigi tasvirlangan bo'lsa, $D = b^2 - 4ac$ va c ning ishoralarini aniqlang?

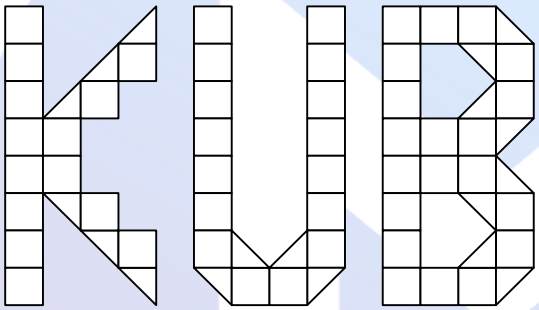


A) $+;\ +$ B) $-;\ +$ C) $+;\ -$ D) $-;\ -$

14. $y=\frac{17(x-4)}{4-x^{0,25}}$ funksiyaning aniqlanish sohasini toping?
A) $(-\infty;4)\cup(4;+\infty)$
B) $[0;4)\cup(4;+\infty)$
C) $[0;256)\cup(256;+\infty)$
D) $(-\infty;256)\cup(256;+\infty)$

15. Agar $x-y=7$ va $xy=-6$ bo'lsa, x^3y+xy^3 ni toping?
A) -122 B) -202 C) -212 D) -222

16. -16 va -6 sonlar orasiga to'rtta shunday son qo'yildiki, natijada bu olti son arifmetik progressiyani hosil qildi. Qo'yilgan sonlar yig'indisini toping?
A) -40 B) -48 C) -36 D) -44

17. 
Rasmda qaysi harf bo'yalsa, rasmning $\frac{17}{59}$ qismi bo'yalgan bo'ladi?
A) K va B B) U C) B D) K

18. Hisoblang:
$\left(1-\frac{2}{4}\right)(2!+3!)+\left(1-\frac{2}{5}\right)(3!+4!)+\cdots+(1-\frac{2}{2020})(2018!+2019!)$
A) $2018!$ B) $2018\cdot 2019!$
C) $2019!-2$ D) $2018!\cdot 2019$

19. x ta x^x ning yig'indisini toping?
A) $2x^x$ B) x^{x^2} C) x^{x+1} D) x^{2x}

20. Agar $2a^2+2b^2=5ab$ va $b>a>0$ bo'lsa, $\frac{a+b}{a-b}$ ni toping?
A) -3 B) -2 C) -1 D) -2,5

21. $\begin{cases}|5+x|\le 9\\|2x+5|\ge 13\end{cases}$ tengsizliklar sistemasi nechta butun yechimga ega?
A) *7* B) *4* C) *6* D) *5*

22. $y=\frac{|x^2-x-12|}{\sqrt{11x-x^2-18}}$ funksiyaning aniqlanish sohasini toping.
A) *(2;9)* B) *(4;9)* C) *(2;4]* D) *(−3;9)*

23. a natural soni uchun $a^2-1=8^7(2^{19}+1)$ bo'lsa, $\frac{a-1}{64^3}$ ni toping.
A) 16 B) 4 C) 8 D) 32

24. $x^2-3x+2n+7=0$ tenglamaning ildizlari x_1 va x_2 bo'lib, ular $x_1\cdot(5-x_2)+5x_2=6$ tenglikni qanoatlantirsa, n ni toping.
A) -2 B) -1 C) 0 D) 1

25. $4x^2+\frac{1}{x^2-4}=16-\frac{1}{4-x^2}$ tenglamani yeching?
A) $\emptyset$ B) -2 C) 2 D) 0

26. $\left(2x^2-\frac{1}{x^2}\right)^7$ ko'phadni ochib chiqsak, bir hadi $p\cdot x^6$ ko'rinishida bo'ldi. Bunga ko'ra p ni toping?
A) 720 B) 672 C) 560 D) 480

27. Agar ushbu $\sqrt{a^2-4a+4}+\sqrt{a^2b^2-6ab+9}+\sqrt{b^2c^2-12bc+36}=0$ tenglik bajarilsa, $a\cdot b\cdot c$ ni toping?
A) 6 B) 9 C) 12 D) 15

28. 1-(1-(1-(1-…-(1-1)))) ni hisoblang. Bu yerda ochilgan va yopilgan qavslar soni 2025 ta.
A) 2021 B) 0 C) 1 D) 2

29. Tenglama ildizlari yig`indisini toping.
$\sqrt{2x-7}+\sqrt{3-x}=\sqrt{3-x}+\sqrt{3x+10}$
A) -3 B) 3 C) ildizga ega emas. D) -1

30. $\frac{3}{x-3}+\frac{5}{x-5}+\frac{17}{x-17}+\frac{19}{x-19}=x^2-11x-4$ ushbu tenglamaning eng katta butun ildizini toping.
A) 19 B) 10 C) 18 D) 11