Matematika

1. Kasrni qisqartiring: $\frac{a^2+6a-91}{a^2+8a-105}$

A) $\frac{a+13}{a+15}$ B) $\frac{a-13}{a-15}$ C) $\frac{a+13}{a-15}$ D) $\frac{a-15}{a+13}$

2. To'g'ri to'rtburchakning balandligi asosining 75% ini tashkil qiladi. Agar to'g'ri to'rtburchakning yuzi $48\,m^2$ bo'lsa, uning perimetrini toping.

A)26 B)32 C)28 D)24

3. $\frac{4-2x}{1+3x}>0$ tengsizlikning butun yechimlari yig'indisini toping.

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

4. Hisoblang: $\sqrt[3]{3\frac{3}{8}}+\sqrt[4]{18}\cdot\sqrt[4]{4\frac{1}{2}}-\sqrt{\sqrt{256}}$

A) 1 B) -1 C) -0,5 D) 0,5

5. Amallarni bajaring:

$$20+\left(7\frac{1}{3}-6\frac{7}{8}\right):\frac{3}{4}-\left(5\frac{1}{4}-4\frac{21}{40}\right):1\frac{9}{20}$$

A) $20\frac{1}{9}$ B) $18\frac{1}{3}$ C)$21\frac{2}{9}$ D) $18\frac{2}{3}$

6. $\frac{\sin(2\alpha-\pi)}{1+\sin\left(\frac{3\pi}{2}+2\alpha\right)}$ ni soddalashtiring.

A) -ctgα B) $\sin\alpha$ C) tgα D) -2cosα

7. $\frac{330^6\cdot 99^2}{33^8\cdot 10^5}$ ifodaning qiymatini toping.

A) 60 B) 120 C) 75 D) 90

8. Tengsizlikni yeching: $0{,}6x^2\le 0{,}5-1{,}3x$

A) $\left[\frac{1}{2};\frac{1}{4}\right]$ B) $\left[\frac{1}{3};\frac{1}{2}\right]$ C) $\left[-\frac{5}{2};\frac{1}{3}\right]$ D) $[1;2]$

9. Tenglamani yeching. $\frac{2}{x+4}=\frac{7}{2x-1}$

A) -10 B) -8 C) 10 D) 12

10. $a=\sqrt{30}$, $b=3\sqrt{3}$ va c=3,5 sonlarni o'sish tartibida joylashtiring.

A) b<c<a B) c<a<b C) c<b<a D) a<b<c

11.Tomonlari 13sm,14sm va 15sm bo'lgan uchburchakka ichki chizilgan aylana radiusini toping.

A) 4 B) 2 C) 3 D) 6

12.b ning qanday qiymatlarida $2x^2+bx+2=0$ tenglama faqat bitta ildizga ega bo'ladi?

A) ± 2 B) ± 3 C) ± 4 D) ± 1

13.Agar teng yonli trapetsiyaning yon tomoni o'rta chizig'iga teng va perimetri 48sm bo'lsa,trapetsiyaning yon tomoni uzunligini toping.

A) 14 B) 10 C) 12 D) 13

14.To'rtburchakning M(2;-4),N(-4;0) va P(2;-2) uchlari berilgan.Agar $\vec{MN}=4\vec{QP}$ bo'lsa, Q uchining koordinatalarini toping.

A) (-7;1) B) (3,5;-3) C) (-7;-1) D) (7;1)

15. $\frac{1}{7+4\sqrt{3}}+\frac{1}{7-4\sqrt{3}}$ ifodaning qiymatini toping. A) 14 B) 14-8$\sqrt{3}$ C) $\frac{14}{7-4\sqrt{3}}$ D) 12