Oqıwshı (F.A.Á)…………………………………………………………………………..………….....

1. (B 1 ball) Parabola tóbesiniń koordinataların tabıń.

$$y = x^2 - 8x$$

A) $(4; 16)$ B) $(4; -16)$ C) $(-4; -16)$ D) $(-4; 16)$

2. (B 1 ball) Kvadrat teńsizlikti sheshiń:

$$x^2 - 16 < 0$$

A) $(-8; 8)$ B) $(-2; 4)$ C) $(-4; 2)$ D) $(-4; 4)$

3. **(B 1 ball)** Kvadrat teńsizlikti sheshiń:

$$\frac{x + 7}{x - 12} \geq 0$$

A) $(-\infty; -7] \cup (12; \infty)$ B) $(-\infty; -7) \cup (12; \infty)$
C) $(-\infty; -7] \cup [12; \infty)$ D) $(-\infty; -7) \cup [12; \infty)$

4. (Q 4 ball) Eger parabolanıń $(2; 1)$ noqat arqalı ótiwi hám onıń tóbesi $(1; 2)$ noqatta bolıwı belgili bolsa, parabolanıń teńlemesin tabıń.

A) $y = -x^2 - 2x - 1$ B) $y = -x^2 + 2x + 1$
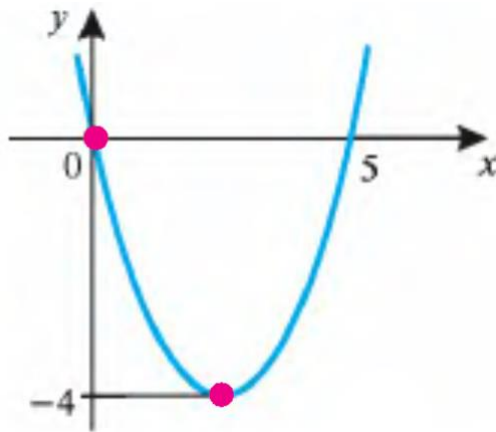C) $y = -x^2 - 2x + 2$ D) $y = -x^2 + 2x + 2$

5. (Q 4 ball) $y = ax^2 + bx + c$ kvadrat funkciyanıń grafigi parabolanıń shaqaları joqarıǵa baǵıtlanǵan, onıń tóbesiniń abcissası da, ordinatası da oń bolsa, a, b hám c koefficientlerdiń belgisi ushın keltirilgen durıs sáykeslikti tabıń.

I. a nıń belgisi	A. Oń
II. b nıń belgisi	B. teris
III. c nıń belgisi	

A) I-A; II-A; III-A   B) I-B; II-B; III-A
C) I-A; II-B; III-A   D) I-A; II-B; III-B

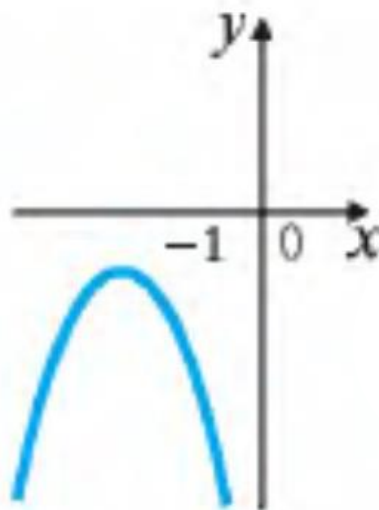**6. (Q 4 ball)** Súwrette kvadrat funkciyanıń grafigi berilgen.

Bul kvadrat funkciya ushın tómendegi tastıyıqlawlardıń durıs yaki nadurıs ekenligin anıqlań.

№	Tastıyıqlawlar	durıs	nadurıs
1	Bul kvadrat funkciyanıń eń kishi mánisi -4 ke teń		
2	Bul kvadrat funkciyanıń $x = 0$ degi mánisi 0 ge teń		
3	Bul kvadrat funkciyanıń $x = 5$ degi mánisi 0 ge teń		

A) durıs, durıs, durıs;   B) durıs, nadurıs, nadurıs;

C) durıs, nadurıs, durıs;   D) durıs, durıs, nadurıs;

7. (Q 4 ball) Súwrette $y = ax^2 + bx + c$ kvadrat funkciyanıń grafigi berilgen.

Súwretten paydalanıp, $ax^2 + bx + c < 0$ teńsizliktiń sheshimin tabıń.

A) $(-\infty; \infty)$ B) $(-\infty; -1)$ C) $(-1; \infty)$ D) $\emptyset$

8. (Q 4 ball) Teńsizlikti sheshiń:

$$\frac{x^2 + 8x + 12}{x + 3} \geq 0$$

A) $[-6; -2] \cup (3; \infty)$ B) $[-6; 2) \cup [3; \infty)$

C) $[-6; -3) \cup [-2; \infty)$ D) $(-\infty; -6] \cup (-3; -2]$

9. (Q 4 ball) Funkciyanıń anıqlanıw oblastın tabıń:

$$y = \sqrt{5x^2 - 15x}$$

A) $[0; 3]$ B) $(-\infty; 0] \cup [3; \infty)$ C) $[-3; 0]$ D) $(-\infty; -3] \cup [0; \infty)$

10. (Q 4 ball) Funkciyanıń ósiw aralıǵın tabıń:
$$y = -x^2 - 10x + 12$$
A) $[5;\infty)$ B) $[-5;\infty)$ C) $(-\infty;5]$ D) $(-\infty;-5]$

11. (Q 4 ball) Teńlemeni sheshiń:
$$\sqrt{x^2 - 10x + 13} = \sqrt{5 - 4x}$$
A) 2   B) 2 hám 4   C) $\emptyset$ D) 4

12. (M 5 ball) a nıń qanday mánislerinde $ax^2 - 6x + 9a > 0$ teńsizlik x tiń barlıq mánislerinde durıs boladı?

A) $a > 1$ B) $a < -1$ C) $a > -1$ D) $a < 1$

13. (B 4 ball) Katetleri 12 cm hám 16 cm bolǵan tuwrı múyeshli úshmúyeshliktiń gipotenuzasınıń uzınlıǵın tabıń.

A) 28 cm   B) 25 cm   C) 18 cm   D) 20 cm

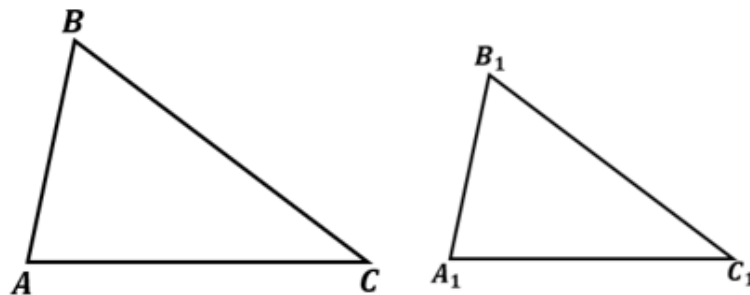**14. (B 4 ball)** Uqsas úshmúyeshlikler ushın tómendegi tastıyıqlawlardıń durıs yaki nadurıs ekenligin anıqlań.

№	Tastıyıqlawlar	durıs	nadurıs
1	Uqsas úshmúyeshliklerdiń sáykes múyeshleri óz ara teń boladı		
2	Uqsas úshmúyeshliklerdiń sáykes tárepleri proporcional boladı		
3	Uqsas úshmúyeshliklerdiń tárepleriniń qatnası k ǵa teń bolsa, maydanlarınıń qatnası k^2 qa teń boladı		

A) durıs, durıs, durıs;   B) nadurıs, durıs, nadurıs;

C) durıs, nadurıs, nadurıs;   D) nadurıs, durıs, durıs;

15. (Q 5,2 ball) Eki uqsas úshmúyeshliklerdiń maydanları 42 m² hám 378 m². Kishi úshmúyeshliktiń bir tárepi 6 m bolsa, úlken úshmúyeshliktiń oǵan sáykes tárepiniń uzınlıǵın tabıń.

A) 18 m   B) 54 m   C) 24 m   D) 12 m

16. (Q 5,2 ball) Súwrette ABC hám $A_1B_1C_1$ úshmúyeshlikler berilgen. Úshmúyeshliklerdiń uqsaslıq belgilerinen paydalanıp, tómendegi tastıyıqlawlardıń durıs yaki nadurıs ekenligin anıqlań.

№	Tastıyıqlawlar	durıs	nadurıs
1	$\frac{BC}{B_1C_1} = \frac{AC}{A_1C_1}$ hám $\angle A = \angle A_1$ bolsa, $\Delta ABC \backsim \Delta A_1B_1C_1$ boladı		

2	$\angle C = \angle C_1$ hám $\angle B = \angle B_1$ bolsa, $\Delta ABC \infty$ $\Delta A_1 B_1 C_1$ boladı		
3	$\frac{AB}{A_1 B_1} \neq \frac{AC}{A_1 C_1} \neq \frac{BC}{B_1 C_1}$ bolsa, $\Delta ABC \infty \Delta A_1 B_1 C_1$ boladı		

A) nadurıs, durıs, nadurıs;   B) nadurıs, nadurıs, durıs;

C) durıs, nadurıs, nadurıs;   D) durıs, durıs, nadurıs;

17. (Q 5,2 ball) $ABCD$ parallelogramnıń CD tárepinde E noqat alınǵan. AE hám BC nurlar F noqatta kesilisedi. Eger $DE = 8$ cm, $EC = 2$ cm, $BC = 12$ cm, $AE = 6$ cm bolsa, ABF úshmúyeshliktiń perimetrin tabıń.
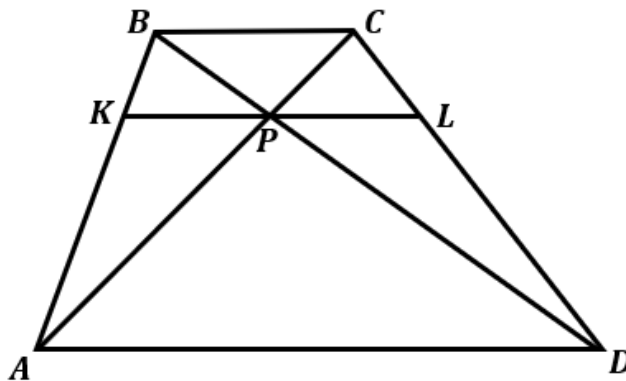
A) 38,5 cm   B) 36 cm   C) 32,5 cm   D) 42 cm

18. (Q 5,2 ball) $O(3; 6)$ noqatqa qarata simmetriyada $A(2; 4)$ noqat qaysı noqatqa ótedi?

A) $(3; 2)$ B) $(4; 8)$ C) $(1; 2)$ D) $(-1; -2)$

19. (Q 5,2 ball) Perimetri 54 cm bolǵan úshmúyeshliktiń bir tárepine parallel etip júrgizilgen tuwrı onnan perimetri 18 cm hám maydanı 24 cm^2 qa teń úshmúyeshlik ajıratadı. Berilgen úshmúyeshliktiń maydanın tabıń.

A) 72 cm^2 B) 216 cm^2 C) 144 cm^2 D) 196 cm^2

20. (M 6 ball) Súwrette berilgen trapeciyada $AD \parallel BC \parallel KL$. Eger $BC = 6$ cm, $AD = 9$ cm bolsa, KL kesindiniń uzınlıǵın tabıń.

A) 8,1 cm   B) 7,5 cm   C) 7,2 cm   D) 6,4 cm

21. (B. 2 ball) Complete the definition with personality adjective.

Someone who is useful and helps others is …

A) helpful   C) popular

B) polite   D) active

22. (B. 2 ball) Choose the correct answer.

Ben wants to climb to the top of the … .

A) valley   C) river

B) mountain   D) sea

23. (B. 2 ball) Choose the correct answer.

We're travelling to Italy from Uzbekistan …… and then renting a car to drive around.

A) by plane   C) by scooter

B) by underground   D) by boat

24. (B. 2 ball) Choose the correct answer.

I like doing exercise, so I enjoy ……. .

A) PE

B) Drama

C) Design and technology

D) ICT

25. **(Q. 2.8 ball)** Choose the correct form of the verb:

I _____ this book now, but I usually _____ novels.

A) am reading, read

B) reading, read

C) reads, read

D) read, is reading

26. (Q. 2.8 ball) Choose the correct form of the verb:

We _____ dinner at a nice restaurant every Saturday, but tonight we _____ at home.

A) are eating, eat

B) eat, are eating

C) eats, eating

D) eat, eating

27. (Q. 2.8 ball) Choose the correct form of the verb:

I _____ my homework before dinner last night.

A) do

B) did

C) done

D) doing

28. **(Q. 2.8 ball)** Choose the correct form of the verb:

We _____ a great time at the party last weekend.

A) have

B) having

C) has

D) had

29. **(Q. 2.8 ball)** Choose the correct preposition to complete the sentence:

We will start the meeting _____ 10 o'clock.

A) on

B) in

C) by

D) at

30. **(Q. 2.8 ball)** Choose the correct preposition to complete the sentence:

I prefer to travel _____ train.

A) on

B) at

C) by

D) in

31. (Q. 2.8 ball) Choose the correct answer.

I don't watch TV as much _____ Tom does.

A) as

B) than

C) that

D) more

32. (Q. 2.8 ball) Choose the correct answer

Stephen speaks English the _____ fluently in our class.

A) most

B) much

C) more

D) less

33. (Q. 2.8 ball) Choose the correct form of the verb:

While she _____ in the park, it _____ to rain.

A) walked, started

B) walked, was starting

C) was walking, started

D) was walking, was starting

34. **(Q. 2.8 ball)** Choose the correct form of the verb:

They _____ dinner when we _____ at their house.

A) had, arrived

B) were having, arrived

C) were having, were arriving
D) had, were arriving

35. (M. 4 ball) Read the text and choose the CORRECT statement.

DAILY STORIES

by Margarita Marcos

Today I'm writing this blog about my oldest sister, Sofia. She's six years older than me. It's her birthday today and she's 21. She doesn't live in the same house as my parents and me, but her flat is in the same street. We live at number 22 Spring Street, and she lives in one of six flats at number 28.

Sofia is the first person I go to when I have a problem, and she always tries to help. She also helps me with my English homework. We all speak Spanish at home, but Sofia speaks English really well too as a second language. She knows some English from school, but she also listens to English music and watches English films. Another thing she is great at is dancing. She's teaching me the tango this week. Tango is really difficult, but I love the music and the dance.

My sister's interested in everything. She loves learning about science on the internet, and she often reads books about history in her free time. She also does three sports: football, swimming and running. She enjoys them all and is good at swimming. She likes camping, and she's learning to play the piano at the moment, too. She can't play very well yet, but she practises every day. She's also planning to learn the violin. She's a very active person! I really don't know how she has time to do so many things!

A) Sofia is Margarita's younger sister.
B) Sofia lives in the same house as Margarita and their parents.
C) Sofia is learning to play the violin at the moment.
D) Sofia is a very active person and manages to do many things.

36. (Biliw - 2 ball) Tómendegi juwaplardan durıslarıń tabıń: a) Broun qozǵalısı tek gana gaz bólekshelerinde baqlanadı; b) Broun qozǵalısında bóleksheler óz betinshe qozǵaladı; c) Broun qozǵalısı temperaturaǵa baylanıslı.

A)   tek a hám b   C)   hámmesi durıs
B)   tek a hám c   D)   tek b hám c

37. (Qollanıw - 2,8 ball) Massası 5 kg bolǵan grafitte qansha uglerod atomı bar? Uglerod atomınıń massasın $2 \cdot 10^{-26}$ kg dep alıń.

A) $2,5 \cdot 10^{26}$ C) $1,5 \cdot 10^{26}$
B) $25 \cdot 10^{24}$ D) $3,0 \cdot 10^{26}$

38. (Qollanıw - 2,8 ball) 140 mol mıstıń massası (kg) qansha? Mıstıń molyar massası 64 g/mol.

   A) 9,52   B) 9,28   C) 8,75   D) 8,96

39. (Biliw - 2 ball) Ideal gaz basımın esaplaw ushın tómende berilgen formulalardan durısların anıqlań.

a) $p = \frac{1}{3} n m_0 \overline{v^2}$ b) $p = \frac{1}{3} n E_k$ c) $p = \frac{2}{3} \rho \overline{v^2}$

A)   hámmesi durıs   C)   tek b hám c
B)   tek b   D)   tek a

40. (Biliw - 2 ball) Tómendegi **M** baǵanada berilgen temperaturalarǵa **N** baǵanadan sáykes keletuǵın temperaturalardı durıs sáykeslestiriń.

M (kelvin)	N (selsiy)
1) 293 K	a) 20°C
2) 263 K	b) –10°C
3) 310 K	c) 37°C
	d) 0°C

A) 1-a; 2-b; 3-c   C) 1-c; 2-b; 3-a

B) 1-d; 2-c; 3-a   D) 1-d; 2-a; 3-b

41. (Qollanıw - 2,8 ball) Massası $3 \cdot 10^{-26}$ kg bolǵan vodorod atomınıń kinetikalıq energiyası $60 \cdot 10^{-21}$ J bolsa, onıń qozǵalıs tezligi qanday boladı (m/s)?

A) 2000   B) 3000   C) 7000   D) 4500

42. (Qollanıw - 2,8 ball) Mendeleev-Klapeyron teńlemesinen ideal gazdiń massası qalay esaplanadı?

A) $m = \frac{pV}{RT}$ C) $m = \frac{pVM}{RT}$

B) $m = \frac{RT}{pV}$ D) $m = \frac{pV}{RTM}$

43. (Qollanıw - 2,8 ball) Kólemi 25 l bolǵan ıdısqa azot (molyar massası 28 g/mol) salınǵan. Ídıstaǵı gazdiń temperaturası 127 °C hám basımı 150 kPa ǵa teń bolsa, ıdıstaǵı gazdiń massasın (g) anıqlań.

A) 27,3   B) 31,6   C) 30,2   D) 35

44. (Qollanıw - 2,8 ball) Normal atmosfera basımı sharayatında ideal gaz 8 l kólemdi iyeleydi. Eger gaz basımı 25 kPa ǵa artsa, gaz qanday kólemdi (l) iyeleydi? Temperatura turaqlı dep alıń.

A) 5,5   B) 6,4   C) 1,2   D) 7,2

45. (Qollanıw - 2,8 ball) Ideal gazdiń temperaturası 87°C hám kólemi 30 l. Basım ózgermegen waqıtta gazdiń kólemi 12 l ge teń bolıwı ushın onı qanshaǵa shekem (K) suwıtıw kerek?

A) 230   B) 210   C) 144   D) 200

46. (Qollanıw - 2,8 ball) Ideal gazdiń temperaturası 87°C hám basımı 300 kPa. Kólemi ózgermegen waqıtta gazdiń basımı 250 kPa ǵa teń bolıwı ushın onı qanshaǵa (°C) suwıtıw kerek?

A) 60   B) 55   C) 80   D) 65

47. (Biliw - 2 ball) Ideal gazdiń ishki energiyasın esaplaw ushın tómende berilgen formulalardan durısların anıqlań.

a) $U = pV$ b) $U = \frac{m}{M}RT$ c) $U = \frac{3}{2}vRT$
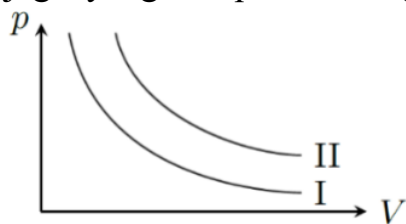
A) hámmesi durıs   C) tek b

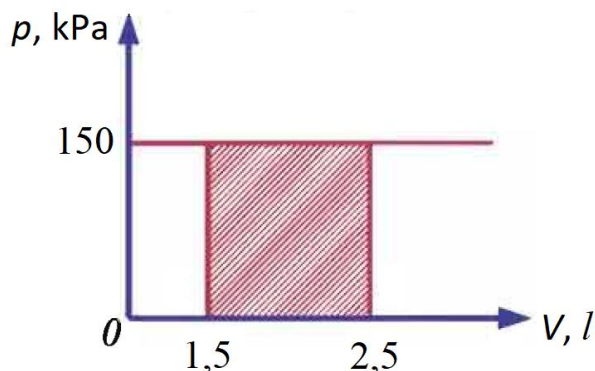B) tek c   D) tek a hám b

48. (Pikir - 4 ball) Ideal gaz ústinde eki túrli izotermiyalıq process orınlandı. Birinshi jaǵdayda gazdiń ishki energiyası 200 kJ ǵa teń, ekinshi jaǵdayda bolsa birinshisinen 50 kJ

ǵa pariqlangan. Eger eki procestegi temperaturalar 100 K ge parıqlanǵan bolsa, ekinshi jaǵdaydaǵı temperaturanı (K) anıqlań.

    A) 350   B) 400   C) 500   D) 300

49. (Qollanıw - 2,8 ball) Súwrette turaqlı basımlı gazdiń keńeyiw grafigi keltirilgen. Keńeyiw procesinde gaz qanday jumıs (kJ) atqarǵan?

    A) 0,15   C) 0,10
    B) 0,25   D) 0,30

50. (Qollanıw - 2,8 ball) Porshen astındaǵı azot gazi 50 K ge izobaralıq qızdırılǵanda gaz sırtqı kúshlerge qarsı 200 kJ jumıs atqarǵan. Azottıń (molyar massası 28 g/mol) massası qanday (kg) bolǵan? Universal gaz turaqlısı R = 8,3 J/ (mol/bulletK).
    A) 12,3   C) 20,2
    B) 15,5   D) 13,5