13-mavzu:
Darsda yechiladigan misollar

1. Quyidagi almashtirish harakat bo'ladimi: $\begin{cases} x' = \frac{\sqrt{3}}{2}x + \frac{1}{2}y \\ y' = -\frac{1}{2}x + \frac{\sqrt{3}}{2}y \end{cases}$.
2. $\begin{cases} x' = \frac{\sqrt{3}}{2}x - \frac{1}{2}y + 3 \\ y' = \frac{1}{2}x + \frac{\sqrt{3}}{2}y - 1 \end{cases}$ formula bilan berilgan almashtirish harakat ekanligini isbotlang va uning turini aniqlang.
3. $\begin{cases} x' = \frac{\sqrt{2}}{2}x + \frac{\sqrt{2}}{2}y \\ y' = \frac{12}{13}x + \frac{5}{13}y + \frac{2}{13} \end{cases}$ formula bilan berilgan almashtirish harakatning turini aniqlang.
4. $\begin{cases} x' = \frac{4}{5}x - \frac{1}{2}y - 1 \\ y' = -\frac{1}{2}x - \frac{4}{5}y - 15 \end{cases}$ formula bilan berilgan harakat $\left(-\frac{31}{2}, -\frac{13}{2}\right)$ nuqta atrofida burish ekanligini isbotlang.
5. $\begin{cases} x' = \frac{2}{5}x - \frac{1}{3}y + \frac{12}{5} \\ y' = -\frac{1}{3}x - \frac{2}{5}y + \frac{16}{2} \end{cases}$ formula bilan berilgan harakat o'qli simmetriya ekanligini isbotlang.
6. $\begin{cases} x' = \frac{2}{5}x + \frac{1}{5}y + \frac{21}{5} \\ y' = \frac{1}{5}x - \frac{2}{5}y - \frac{13}{5} \end{cases}$ formula bilan berilgan harakat sirpanuvchi simmetriya ekanligini isbotlang.
7. $\begin{cases} x' = \frac{\sqrt{3}}{2}x + \frac{1}{2}y, \\ y' = -\frac{1}{2}x + \frac{\sqrt{3}}{2}y \end{cases}$ formula bilan berilgan almashtirish harakat ekanligini isbotlang va uning turini aniqlang.
8. $\begin{cases} x = \frac{3x'}{2y'} + 3 \\ y = x' + 3y' - 1 \end{cases}$ almashtirishning quzg'almas nuqtalarini toping.