1. Graph $y = e^{-x+3}$.

2. Graph $y = \ln(1 - x)$.

3. Graph $y = -2\cos(3x - 2\pi)$ over the interval $[0, \pi]$.

4. Graph $y = \tan(x + 45°)$ from $x = -30°$ to $x = 60°$.

5. Graph $x = -y^2 - 3y - 4$ and find the vertex and the axis of symmetry.

6. Graph $x^2 - 4x + y^2 + 8y = 22$ and find the coordinates of foci.

7. Graph $x^2 + 2x - y^2 - 4y = 0$ and find the transverse axis.

8. Let $\log_2 3 = a$, $\log_3 7 = b$, write $\log_{63} 84$ in terms of a, b.

9. Solve the triangle: $\alpha = 40°, \beta = 60°, a = 4$.

10. Solve the equation $\sin\theta = \tan\theta$.

11. Prove the identity: $\csc\theta - \sin\theta = \cos\theta\cot\theta$.

12. Solve linear system: $2x + 7y = 5$ and $3x - 9y = 14$ by any method.

13. Solve linear system: $2x + 7y - z = 5$, $3x - 9y + z = 14$ and $y - 5z = 2$ by any method.

14. Use Cramer's rule to solve the system $3x + 7y = \pi$ and $\sqrt{2}x - 9y = 1$.

15. Solve nonlinear system: $\ln x = 4\ln y$ and $\log_3 2 = 2 + 2\log_3 y$.

16. Let $\cos\theta + 3\sin\theta = 2$ and $0 < \theta < 90°$. Find the exact value of $\cos\theta + \sin\theta$

17. Find the exact value of $\sin(2\sin^{-1}\frac{1}{2}) + \cos(2\cos^{-1}\frac{1}{2})$.

18. Write down a formula for $f(x)$ if $f(x)$ is a sin function with amplitude 2, period 2π and phase shift $\frac{\pi}{4}$.

19. A radioactive substance decays from 10 g to 6 g in 5 days. Find the half life of this substance in terms of hours.

20. A survey of a certain community of 10,000 residents shows that the number of residents N who have heard a piece of infomation after m months is given by the formula $m = 55.3 - 6\ln(10,000 - N)$. How many months will it take for half of the citizens to learn about a comminuty program of free blood pressure reading?