

Equations of the form $\sin(x) = b$

Homework

№1. Solve the following equations:

1. $\sin\left(\frac{\pi}{18} - 8x\right) = 1;$

2. $2\sin\left(\frac{x}{5} - 4\right) + 1 = 0.$

№2. Find the greatest negative root of the equation $\sin\left(3x - \frac{\pi}{15}\right) = -1.$

№3. Find all roots of the equation $\sin 3x = \frac{\sqrt{2}}{2}$ which belong to an interval $\left[-\frac{3\pi}{2}; \frac{\pi}{2}\right].$

№4. Solve the following equations:

1. $\sin x - \sqrt{3} \cos x = 1;$

2. $\sin x + \cos x = \sqrt{2}.$

№5. Solve the following equations:

1. $\sin \frac{3\pi}{\sqrt{x}} = -\frac{\sqrt{3}}{2};$

2. $\cos(\pi \sin x) = 0.$