

**Решить нечётные**

2.2.1. а)  $2\cos^2 x = 3\sin(x + 90^\circ) + 2$ ; б)  $\sin^2 x = 3\cos(x - 270^\circ) + 4$ ;  
в)  $4\cos^2 x = 3 - 4\sin(x + 90^\circ)$ ; г)  $2\sin^2 x = 3 + 5\cos(x + 270^\circ)$ ;  
д)  $\cos^2 x = \sin(x - 90^\circ) + 2$ .

2.2.2. а)  $\cos 2x - 10\cos^2 \frac{x}{2} + 8 = 0$ ; б)  $\cos 2x + 14\sin^2 \frac{x}{2} - 1 = 0$ ;  
в)  $\cos 2x + 6\cos^2 \frac{x}{2} - 4 = 0$ ; г)  $\cos 2x + 10\sin^2 \frac{x}{2} - 11 = 0$ ;  
д)  $\cos 2x - 18\cos^2 \frac{x}{2} + 5 = 0$ .

2.2.3. а)  $8\cos^4 \frac{x}{2} = 9\cos x$ ; б)  $4\sin^4 \frac{x}{2} + 5\cos x + 1 = 0$ ;

$$\text{в)} 4\cos^4 \frac{x}{2} + \cos x + 1 = 0; \quad \text{г)} 8\sin^4 \frac{x}{2} = \cos x;$$

$$\text{д)} 4\cos^4 \frac{x}{2} = \cos x + 3.$$

$$2.2.4. \text{ а)} \operatorname{tg}^2 x + 3 = \frac{1}{\cos^4 x}; \quad \text{б)} \operatorname{ctg}^4 x + 23 = \frac{2}{\sin^4 x};$$

$$\text{в)} 2\operatorname{tg}^4 x - \frac{1}{\cos^4 x} = 2; \quad \text{г)} 7 + 3\operatorname{ctg}^2 x = \frac{1}{\sin^4 x};$$

$$\text{д)} \frac{1}{\cos^4 x} = 5 - \operatorname{tg}^2 x.$$

$$2.2.5. \text{ а)} \operatorname{tg}(x + 25^\circ) + 2\operatorname{ctg}(x + 115^\circ) = 4\operatorname{tg}(155^\circ - x);$$

$$\text{б)} \operatorname{ctg}(x + 15^\circ) - 3\operatorname{tg}(x + 105^\circ) = 5\operatorname{ctg}(165^\circ - x);$$

$$\text{в)} \operatorname{tg}(x + 45^\circ) + 4\operatorname{ctg}(x + 135^\circ) = 2\operatorname{tg}(135^\circ - x);$$

$$\text{г)} \operatorname{ctg}(x + 35^\circ) - 2\operatorname{tg}(x + 125^\circ) = 5\operatorname{ctg}(145^\circ - x);$$

$$\text{д)} \operatorname{tg}(x + 55^\circ) + 6\operatorname{ctg}(x + 145^\circ) = 2\operatorname{tg}(125^\circ - x).$$

$$2.2.6. \text{ а)} 3\sin^2 x + \sin x \cdot \cos x = 2; \quad \text{б)} 8\cos^2 x - 6 \sin x \cdot \cos x = 7;$$

$$\text{в)} 4\sin^2 x + 2 \sin x \cdot \cos x = 3; \quad \text{г)} 9\cos^2 x - 7 \sin x \cdot \cos x = 8;$$

$$\text{д)} 5\sin^2 x + 3 \sin x \cdot \cos x = 4.$$

$$2.2.7. \text{ а)} \sin 6x + \sqrt{3} \cos 6x = 1; \quad \text{б)} \sin 5x - \cos 5x = \sqrt{\frac{3}{2}};$$

$$\text{в)} \sqrt{3} \sin 3x + \cos 3x = 2; \quad \text{г)} \sin 4x - \sqrt{3} \cos 4x = \sqrt{3};$$

$$\text{д)} \sin 9x + \cos 9x = 1.$$

$$2.2.8. \text{ а)} \sin 3x = \cos 2x; \quad \text{б)} \cos 8x = \sin 7x; \quad \text{в)} \sin 4x = \cos 14x;$$

$$\text{г)} \cos 6x = \sin 9x; \quad \text{д)} \sin 4x = \cos 5x.$$

$$2.2.9. \text{ а)} \sin^2 2x = \cos^2 7x; \quad \text{б)} \sin^2 8x = \sin^2 7x; \quad \text{в)} \cos^2 2x = \cos^2 3x;$$

$$\text{г)} \sin^2 2x = \cos^2 8x; \quad \text{д)} \cos^2 5x = \cos^2 4x.$$

