Trigonometric Equations

Name

Class Date

ANSWERS

1a

1b

2a

2b

3a

3b

4a

4b

5a

5b

6a

6b

7a

7b

8a

8b

C

Solve the following equations:

1. a. $\sin^8 x - \cos^8 x = \frac{1}{2}\cos^2 2x - \frac{1}{2}\cos 2x$

b. $\cos^8 x - \sin^8 x = \cos^2 2x + \frac{1}{2}\cos 2x$

2. a. $\sqrt{\cos x + \cos 3x} = \sqrt{2}\cos 2x$

b. $\sqrt{\sin x - \sin 3x} = \sqrt{2}\sin x$

3. a. $4\sin^2 2x - 2\cos^2 2x = \cos 8x$

b. $2(\sin^2 2x + 1) = \sin 8x + 6\cos^2 2x$

4. a. $\sin 2x - \cos 2x = tgx$

b. $\sin 2x + \cos 2x = 2tgx + 1$

5. a. $\sin^2 x + \sin^2 2x + \sin^2 3x + \sin^2 4x = 2$

b. $\sin^2 x - \sin^2 2x + \sin^2 3x = 0.5$

6. a. $\sqrt{3}\sin x + \cos x = 1$

b. $1 - \cos x = \sin x \sin\frac{x}{2}$

7. a. $4\sin^3 x + 4\cos^2 x - \sin x - 3 = 0$

b. $4\cos^3 x - 4\sin^2 x - 3\cos x + 1 = 0$

8. a. $\sin 3x + \sin x = \sin 2x$

b. $\sin x + \sin 2x + \sin 3x = 0$