Lesson 5.5 Practice: Double-Angle and Half-Angle Formulas

School Launch · Trigonometry · Unit 5: Trigonometric Identities · Worksheet A

Scientific calculator

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. $\sin\theta = \frac{8}{17}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

EASY

2. $\sin\theta = \frac{20}{29}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

EASY

3. $\sin\theta = \frac{9}{41}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

EASY

4. $\cos\theta = \frac{3}{5}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

MEDIUM

5. $\sin\theta = \frac{5}{13}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

MEDIUM

6. $\sin\theta = \frac{7}{25}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

MEDIUM

7. $\cos\theta = \frac{8}{17}$ with θ acute. Find $\sin 2\theta$ and $\cos 2\theta$.

MEDIUM

8. $\cos\theta = \frac{40}{41}$ with θ acute. Find $\sin\frac{\theta}{2}$ exactly. HARD

9. $\cos\theta = \frac{15}{17}$ with θ acute. Find $\cos\frac{\theta}{2}$ exactly. HARD

10. $\cos\theta = \frac{12}{13}$ with θ acute. Find $\cos\frac{\theta}{2}$ exactly. HARD