Precalculus

Name_____ ID: 1

Assignment

Date_____ Period_____

Find the exact value of each.

1) $\sin \theta = -\dfrac{1}{5}$ where $3\pi \le \theta < \dfrac{7\pi}{2}$

Find $\tan 2\theta$

2) $\sin \theta = \dfrac{15}{17}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

3) $\tan \theta = -\dfrac{\sqrt{10}}{5}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

4) $\sin \theta = \dfrac{4}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\cos 2\theta$

5) $\cos \theta = -\dfrac{1}{17}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

6) $\sin \theta = \dfrac{5\sqrt{34}}{34}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\tan 2\theta$

7) $\cos \theta = \dfrac{3}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\cos 2\theta$

8) $\sin \theta = -\dfrac{4}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\tan 2\theta$

9) $\tan \theta = -\dfrac{\sqrt{3}}{3}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\sin 2\theta$

10) $\cos \theta = \dfrac{3}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\sin 2\theta$

11) $\sin \theta = \dfrac{5\sqrt{29}}{29}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\sin 2\theta$

12) $\sin \theta = -\dfrac{4}{5}$ where $3\pi \le \theta < \dfrac{7\pi}{2}$

Find $\tan 2\theta$

13) $\cos \theta = -\dfrac{3}{5}$ where $\dfrac{5\pi}{2} \le \theta < 3\pi$

Find $\cos 2\theta$

14) $\tan \theta = -\dfrac{12}{5}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

15) $\cos \theta = \dfrac{3}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\sin 2\theta$

16) $\tan \theta = -\dfrac{\sqrt{2}}{24}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\tan 2\theta$

17) $\sin \theta = -\dfrac{12}{13}$ where $3\pi \le \theta < \dfrac{7\pi}{2}$

Find $\tan 2\theta$

18) $\cos \theta = -\dfrac{3}{5}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\cos 2\theta$

19) $\sin \theta = -\dfrac{4}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\tan 2\theta$

20) $\cos \theta = -\dfrac{\sqrt{15}}{4}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\cos 2\theta$

21) $\sin \theta = \dfrac{4}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\cos \dfrac{\theta}{2}$

22) $\tan \theta = \dfrac{1}{4}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

23) $\sin \theta = \dfrac{4}{5}$ where $\dfrac{5\pi}{2} \le \theta < 3\pi$

Find $\cos \dfrac{\theta}{2}$

24) $\cos \theta = -\dfrac{8}{17}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

25) $\tan \theta = \dfrac{4}{3}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\sin \dfrac{\theta}{2}$

26) $\sin \theta = \dfrac{15}{17}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\cos \dfrac{\theta}{2}$

27) $\tan \theta = -\sqrt{3}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin \dfrac{\theta}{2}$

28) $\cos \theta = \dfrac{3}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\sin \dfrac{\theta}{2}$

29) $\tan \theta = \dfrac{4}{3}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

30) $\sin \theta = \dfrac{4}{5}$ where $\dfrac{5\pi}{2} \le \theta < 3\pi$

Find $\tan \dfrac{\theta}{2}$

31) $\sin \theta = \dfrac{15}{17}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

32) $\sin \theta = -\dfrac{5}{9}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\cos \dfrac{\theta}{2}$

33) $\sin \theta = -\dfrac{4}{5}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\cos \dfrac{\theta}{2}$

34) $\cos \theta = \dfrac{8}{17}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

35) $\sin \theta = -\dfrac{4}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\cos \dfrac{\theta}{2}$

36) $\tan \theta = -\dfrac{4}{3}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\cos \dfrac{\theta}{2}$

37) $\cos \theta = \dfrac{3}{5}$ where $\dfrac{7\pi}{2} \le \theta < 4\pi$

Find $\tan \dfrac{\theta}{2}$

38) $\tan \theta = \dfrac{12}{5}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

39) $\tan \theta = -\dfrac{15}{8}$ where $\dfrac{7\pi}{2} \le \theta < 4\pi$

Find $\cos \dfrac{\theta}{2}$

40) $\tan \theta = \dfrac{\sqrt{3}}{4}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\cos \dfrac{\theta}{2}$

Assignment

Find the exact value of each.

1) $\sin \theta = -\dfrac{1}{5}$ where $3\pi \le \theta < \dfrac{7\pi}{2}$

Find $\tan 2\theta$

$\dfrac{4\sqrt{6}}{23}$

2) $\sin \theta = \dfrac{15}{17}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

$-\dfrac{240}{289}$

3) $\tan \theta = -\dfrac{\sqrt{10}}{5}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

$-\dfrac{2\sqrt{10}}{7}$

4) $\sin \theta = \dfrac{4}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\cos 2\theta$

$-\dfrac{7}{25}$

5) $\cos \theta = -\dfrac{1}{17}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

$-\dfrac{24\sqrt{2}}{289}$

6) $\sin \theta = \dfrac{5\sqrt{34}}{34}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\tan 2\theta$

$\dfrac{15}{8}$

7) $\cos \theta = \dfrac{3}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\cos 2\theta$

$-\dfrac{7}{25}$

8) $\sin \theta = -\dfrac{4}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\tan 2\theta$

$\dfrac{24}{7}$

9) $\tan \theta = -\dfrac{\sqrt{3}}{3}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\sin 2\theta$

$-\dfrac{\sqrt{3}}{2}$

10) $\cos \theta = \dfrac{3}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\sin 2\theta$

$\dfrac{24}{25}$

11) $\sin \theta = \dfrac{5\sqrt{29}}{29}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\sin 2\theta$

$\dfrac{20}{29}$

12) $\sin \theta = -\dfrac{4}{5}$ where $3\pi \le \theta < \dfrac{7\pi}{2}$

Find $\tan 2\theta$

$-\dfrac{24}{7}$

13) $\cos \theta = -\dfrac{3}{5}$ where $\dfrac{5\pi}{2} \le \theta < 3\pi$

Find $\cos 2\theta$

$-\dfrac{7}{25}$

14) $\tan \theta = -\dfrac{12}{5}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\sin 2\theta$

$-\dfrac{120}{169}$

15) $\cos \theta = \dfrac{3}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\sin 2\theta$

$-\dfrac{24}{25}$

16) $\tan \theta = -\dfrac{\sqrt{2}}{24}$ where $\dfrac{\pi}{2} \le \theta < \pi$

Find $\tan 2\theta$

$-\dfrac{24\sqrt{2}}{287}$

17) $\sin \theta = -\dfrac{12}{13}$ where $3\pi \le \theta < \dfrac{7\pi}{2}$

Find $\tan 2\theta$

$-\dfrac{120}{119}$

18) $\cos \theta = -\dfrac{3}{5}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\cos 2\theta$

$-\dfrac{7}{25}$

19) $\sin \theta = -\dfrac{4}{5}$ where $\dfrac{3\pi}{2} \le \theta < 2\pi$

Find $\tan 2\theta$

$\dfrac{24}{7}$

20) $\cos \theta = -\dfrac{\sqrt{15}}{4}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\cos 2\theta$

$\dfrac{7}{8}$

21) $\sin \theta = \dfrac{4}{5}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\cos \dfrac{\theta}{2}$

$\dfrac{2\sqrt{5}}{5}$

22) $\tan \theta = \dfrac{1}{4}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

$\sqrt{33 - 8\sqrt{17}}$

23) $\sin \theta = \dfrac{4}{5}$ where $\dfrac{5\pi}{2} \le \theta < 3\pi$

Find $\cos \dfrac{\theta}{2}$

$-\dfrac{\sqrt{5}}{5}$

24) $\cos \theta = -\dfrac{8}{17}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

$-\dfrac{5}{3}$

25) $\tan \theta = \dfrac{4}{3}$ where $\pi \leq \theta < \dfrac{3\pi}{2}$

    Find $\sin \dfrac{\theta}{2}$

    $\dfrac{2\sqrt{5}}{5}$

26) $\sin \theta = \dfrac{15}{17}$ where $\dfrac{\pi}{2} \leq \theta < \pi$

    Find $\cos \dfrac{\theta}{2}$

    $\dfrac{3\sqrt{34}}{34}$

27) $\tan \theta = -\sqrt{3}$ where $\dfrac{\pi}{2} \leq \theta < \pi$

    Find $\sin \dfrac{\theta}{2}$

    $\dfrac{\sqrt{3}}{2}$

28) $\cos \theta = \dfrac{3}{5}$ where $0 \leq \theta < \dfrac{\pi}{2}$

    Find $\sin \dfrac{\theta}{2}$

    $\dfrac{\sqrt{5}}{5}$

29) $\tan \theta = \dfrac{4}{3}$ where $\pi \leq \theta < \dfrac{3\pi}{2}$

    Find $\tan \dfrac{\theta}{2}$

    -2

30) $\sin \theta = \dfrac{4}{5}$ where $\dfrac{5\pi}{2} \leq \theta < 3\pi$

    Find $\tan \dfrac{\theta}{2}$

    2

31) $\sin \theta = \dfrac{15}{17}$ where $0 \leq \theta < \dfrac{\pi}{2}$

    Find $\tan \dfrac{\theta}{2}$

    $\dfrac{3}{5}$

32) $\sin \theta = -\dfrac{5}{9}$ where $\dfrac{3\pi}{2} \leq \theta < 2\pi$

    Find $\cos \dfrac{\theta}{2}$

    $-\dfrac{\sqrt{18 + 4\sqrt{14}}}{6}$

33) $\sin \theta = -\dfrac{4}{5}$ where $\pi \leq \theta < \dfrac{3\pi}{2}$

    Find $\cos \dfrac{\theta}{2}$

    $-\dfrac{\sqrt{5}}{5}$

34) $\cos \theta = \dfrac{8}{17}$ where $0 \leq \theta < \dfrac{\pi}{2}$

    Find $\tan \dfrac{\theta}{2}$

    $\dfrac{3}{5}$

35) $\sin \theta = -\dfrac{4}{5}$ where $\dfrac{3\pi}{2} \leq \theta < 2\pi$

    Find $\cos \dfrac{\theta}{2}$

    $-\dfrac{2\sqrt{5}}{5}$

36) $\tan \theta = -\dfrac{4}{3}$ where $\dfrac{\pi}{2} \leq \theta < \pi$

    Find $\cos \dfrac{\theta}{2}$

    $\dfrac{\sqrt{5}}{5}$

37) $\cos \theta = \dfrac{3}{5}$ where $\dfrac{7\pi}{2} \le \theta < 4\pi$

Find $\tan \dfrac{\theta}{2}$

$-\dfrac{1}{2}$

38) $\tan \theta = \dfrac{12}{5}$ where $\pi \le \theta < \dfrac{3\pi}{2}$

Find $\tan \dfrac{\theta}{2}$

$-\dfrac{3}{2}$

39) $\tan \theta = -\dfrac{15}{8}$ where $\dfrac{7\pi}{2} \le \theta < 4\pi$

Find $\cos \dfrac{\theta}{2}$

$\dfrac{5\sqrt{34}}{34}$

40) $\tan \theta = \dfrac{\sqrt{3}}{4}$ where $0 \le \theta < \dfrac{\pi}{2}$

Find $\cos \dfrac{\theta}{2}$

$\dfrac{\sqrt{722 + 152\sqrt{19}}}{38}$