Algebra 2
Unit: Trigonometric Functions
Section: Basic Angles and Radian Measures

Multiple Choice: Converting Between Degrees and Radians

Directions: Choose the correct answer for each question

1. Convert 160° into radians.

A. 9 times pi divided by 8 radians
B. pi divided by 9 radians
C. 8 times pi divided by 9 radians
D. pi divided by 8 radians

2. Convert pi divided by 5 radians into degrees.

A. 45°
B. 50°
C. 75°
D. 36°

3. Convert 250° into radians.

A. 25 times pi divided by 18 radians
B. 18 times pi divided by 25 radians
C. 5 times pi divided by 18 radians
D. 25 times pi divided by 16 radians

4. Convert negative pi divided by 6 radians into degrees.

A. 30°
B. -30°
C. 45°
D. -45°

Answers: Correct answers are marked with an asterisk. Incorrect answers have hints for what mistake you may have made.

1. A. $\frac{9\pi}{8}$ radians

@ $160° \times \frac{\pi \text{ radians}}{180°} = \frac{8\pi}{9}$ radians

B. $\frac{\pi}{9}$ radians

@ $160° \times \frac{\pi \text{ radians}}{180°} = \frac{8\pi}{9}$ radians

*C. $\frac{8\pi}{9}$ radians

@ $160° \times \frac{\pi \text{ radians}}{180°} = \frac{8\pi}{9}$ radians

D. $\frac{\pi}{8}$ radians

@ $160° \times \frac{\pi \text{ radians}}{180°} = \frac{8\pi}{9}$ radians

2. A. 45°

@ $\frac{\pi}{5}\text{radians} \times \frac{180°}{\pi \text{ radians}} = 36°$

B. 50°

@ $\frac{\pi}{5}\text{radians} \times \frac{180°}{\pi \text{ radians}} = 36°$

C. 75°

@ $\frac{\pi}{5}\text{radians} \times \frac{180°}{\pi \text{ radians}} = 36°$

*D. 36°

@ $\frac{\pi}{5}\text{radians} \times \frac{180°}{\pi \text{ radians}} = 36°$

3. *A. $\frac{25\pi}{18}$ radians

@ $250° \times \frac{\pi \text{ radians}}{180°} = \frac{25\pi}{18}$ radians

B. $\frac{18\pi}{25}$ radians

@ $250° \times \frac{\pi \text{ radians}}{180°} = \frac{25\pi}{18}$ radians

C. $\frac{5\pi}{18}$ radians

@ $250° \times \frac{\pi \text{ radians}}{180°} = \frac{25\pi}{18}$ radians

D. $\frac{25\pi}{16}$ radians

@ $250° \times \frac{\pi \text{ radians}}{180°} = \frac{25\pi}{18}$ radians

4. A. 30°

@ $-\frac{\pi}{6} \times \frac{180°}{\pi \text{ radians}} = -30°$

*B. -30°

@ $-\frac{\pi}{6} \times \frac{180°}{\pi \text{ radians}} = -30°$

C. 45°

@ $-\frac{\pi}{6} \times \frac{180°}{\pi \text{ radians}} = -30°$

D. -45°

@ $-\frac{\pi}{6} \times \frac{180°}{\pi \text{ radians}} = -30°$