convert between degree and radian measure

Reminder: $2\pi = 360°$.

$240° \left(\frac{2\pi}{360°}\right)$

$\frac{240 \cdot 2\pi}{360} = \frac{480\pi}{360}$

$\frac{4\pi}{3} = 240°$

$-\frac{12\pi}{3}\left(\frac{360°}{2\pi}\right)$

$-\frac{360°}{3} = -120° = -\frac{2\pi}{3}$

Convert from radians to degrees, or vice versa

reminder: $\pi \text{ rad} = 180°$ $\quad 1 = \frac{180°}{\pi \text{ rad}}$ $\quad \frac{\pi \text{ rad}}{180°} = 1$

$\frac{3\pi}{4}\left(\frac{180°}{\pi \text{ rad}}\right) = 135°$

$150°\left(\frac{\pi}{180°}\right) = \frac{5\pi}{6}$

$-\frac{2\pi}{3}\left(\frac{180°}{\pi}\right) = -120°$

$-90°\left(\frac{\pi}{180°}\right) = -\frac{\pi}{2}$

Quiz

Question 1:

Question: What is the measure, in radians, of the angle?

220° $\left(\frac{\pi}{180}\right) \Rightarrow \frac{220}{20} \times \frac{\pi}{180/20}$

$\frac{11\pi}{9}$

Answer choices:

A $\frac{9}{11}\pi$

B $\frac{5}{4}\pi$

C $\frac{11}{9}\pi$

D $\frac{5}{6}\pi$

Question 2:

Question: What is the measure, in degrees, of the angle?

$-\frac{13}{8}\pi$ $\left(\frac{180^\circ}{\pi}\right) = \frac{13 \times 180^\circ}{8} \Rightarrow \frac{2340^\circ}{8}$

$= 292.5^\circ$

Answer choices:

A -260°

B -292.5°

C -265.5°

D -290°

Question 3:

Question: Which of the following is the best approximation of the angle?

Answer choices:

A 2.84 radians

B 3.45 radians

C 1.76 radians

D 2.66 radians

$163^\circ\left(\frac{\pi}{180^\circ}\right) = \frac{163 \times 3.14}{180}$

$\frac{511}{180} = 2.84$