

**Topic: Complementary and supplementary angles**

**Question:** Find the supplementary angle.

The angle  $\theta$  that's supplementary to  $126^\circ$

**Answer choices:**

A  $\theta = 154^\circ$

B  $\theta = 36^\circ$

C  $\theta = 54^\circ$

D  $\theta = 180^\circ$



**Solution: C**

Since  $\theta$  is supplementary to an angle of  $126^\circ$  we have

$$\theta + 126^\circ = 180^\circ$$

Solving for  $\theta$ :

$$\theta = 180^\circ - 126^\circ$$

$$\theta = 54^\circ$$



**Topic: Complementary and supplementary angles**

**Question:** Find the complementary angle.

The angle  $\theta$  (in radians) that's complementary to  $\pi/6$  radians

**Answer choices:**

A  $\theta = \frac{5}{12}\pi$

B  $\theta = \frac{\pi}{2}$

C  $\theta = \frac{5}{6}\pi$

D  $\theta = \frac{1}{3}\pi$



**Solution: D**

$\theta$  and the angle of  $\pi/6$  radians are complementary, so

$$\theta + \frac{\pi}{6} = \frac{\pi}{2}$$

Solving for  $\theta$ :

$$\theta = \frac{\pi}{2} - \frac{\pi}{6}$$

$$\theta = \left( \frac{1}{2} - \frac{1}{6} \right) \pi$$

Combining the two terms on the right-hand side by using 6 as a common denominator, we find that

$$\theta = \left( \frac{3 - 1}{6} \right) \pi$$

$$\theta = \frac{2}{6} \pi$$

$$\theta = \frac{1}{3} \pi$$

