11.6 # 16

$\vec{n_1} = \langle 3, -2, -5 \rangle \perp P_1$

$\vec{n_2} = \langle -1, -1, 2 \rangle \perp P_2$

Let θ be an angle $(0 \le \theta \le \pi)$ between $\vec{n_1}$ and $\vec{n_2}$.

$$\cos \theta = \frac{\vec{n_1} \cdot \vec{n_2}}{\|\vec{n_1}\| \, \|\vec{n_2}\|} = \frac{-3 + 2 - 10}{\sqrt{9+4+25} \, \sqrt{1+1+4}} = \frac{-11}{\sqrt{38}\sqrt{6}}$$

Since $\cos \theta < 0$, θ is obtuse.

So $\pi - \theta = \pi - \arccos\left(\frac{-11}{\sqrt{38}\sqrt{6}}\right)$ is the

acute angle between the normal vectors and

thus between the planes.