VECTORS PERPENDICULAR TO PLANES - ANSWERS

For each plane below, find a vector perpendicular to the plane.

1. $2x + 3y - 4z + 5 = 0$

   $\vec{v} = 2\hat{i} + 3\hat{j} - 4\hat{k} = \langle 2, 3, -4 \rangle$

2. $z = 4x - 8y + 2$

   $4x - 8y - z + 2 = 0$
   $\vec{v} = 4\hat{i} - 8\hat{j} - \hat{k} = \langle 4, -8, -1 \rangle$

3. $8x + y + 5z = 10$

   $\vec{v} = 8\hat{i} + \hat{j} + 5\hat{k} = \langle 8, 1, 5 \rangle$

4. $z = -x - 2y + 3$

   $x + 2y + z - 3 = 0$
   $\vec{v} = \hat{i} + 2\hat{j} + \hat{k} = \langle 1, 2, 1 \rangle$

5. $4x + y = 2z - 10$

   $4x + y - 2z - 10 = 0$
   $\vec{v} = 4\hat{i} + \hat{j} - 2\hat{k} = \langle 4, 1, -2 \rangle$

6. $z = -2x - 5y - 1$

   $2x + 5y + z + 1 = 0$
   $\vec{v} = 2\hat{i} + 5\hat{j} + \hat{k} = \langle 2, 5, 1 \rangle$