Practice worksheet | Vectors in two dimensions

Addition/subtraction and scalar multiplication

Name: _____ Date: _____

6 questions | 14 marks

1. For $\mathbf{a} = (4, -2)$ and $\mathbf{b} = (-1, 5)$, find $\mathbf{a} + \mathbf{b}$. [2 marks]

2. For the same vectors, find $\mathbf{a} - \mathbf{b}$. [2 marks]

3. Find $-3(2, -4) + 2(-1, 1)$. [2 marks]

4. Solve $2\mathbf{x} + (1, -3) = (7, 5)$. [2 marks]

5. A drone flies $(3, 2)$ km, then $(-5, 1)$ km, then $(1, -4)$ km. Find its displacement and direct return vector. [3 marks]

6. If $|\mathbf{u}| = 7$, find $|-\frac{3}{2}\mathbf{u}|$ and explain the direction. [3 marks]