

Extra Problems

Online Problems

Problem 1 Compute the following:

$$(1, 2, 3) + (8, 3, 6) = \boxed{(9, 5, 9)}$$

$$4(1, -2, 4) = \boxed{(4, -8, 16)}$$

$$-12((5, 2, 6) - (8, 2, 4)) = \boxed{(36, 0, 24)}$$

Problem 2 Let h be a constant. Compute the following:

$$(7, 2, -1) + (2h, 0, h) = \boxed{(7 + 2h, 2, h - 1)}$$

$$h(1, 8, 2) = \boxed{(h, 8h, 2h)}$$

Problem 3 For each of the following, determine whether the quantity exists or does not exist.

$$(1, 8, 3, 7) + (-1, 7, 2, 7)$$

Multiple Choice:

- (a) *Exists.* ✓
- (b) *Does not exist.*

$$(2, 8, 3) + (1, 7)$$

Multiple Choice:

Learning outcomes:
Author(s):

(a) *Exists.*

(b) *Does not exist.* ✓

$$(2, 7, 3) + 1$$

Multiple Choice:

(a) *Exists.*

(b) *Does not exist.* ✓

$$(2, 8, 3)(1, 7, 3)$$

Multiple Choice:

(a) *Exists.*

(b) *Does not exist.* ✓

$$2(7, 2, 3, 7, 2)$$

Multiple Choice:

(a) *Exists.* ✓

(b) *Does not exist.*

Problem 4 For points $P_1 = (2, -3, 7, 1)$ and $P_2 = (-1, 7, 2, 1)$, compute the displacement vector $P_1\vec{P}_2$.

$$P_1\vec{P}_2 = \boxed{(-3, 10, -5, 0)}$$

Problem 5 Write the vector $2\mathbf{i} - 5\mathbf{j} + 2\mathbf{k}$ in \mathbb{R}^3 in standard vector notation.

$$2\mathbf{i} - 5\mathbf{j} + 2\mathbf{k} = \boxed{(2, -5, 2)}$$