

Vektoren addieren, subtrahieren und vervielfachen

Stufe 2: im Raum, auch Vielfache

Name: _____

Datum: _____

Rechne komponentenweise. Die Vektoren sind in Zeilenschreibweise (x | y | z) angegeben.

1) $(-3 \mid 8 \mid 2) + (5 \mid -5 \mid 3) =$ _____

2) $(8 \mid -1 \mid 0) + (-3 \mid 2 \mid 0) =$ _____

3) $2 \cdot (8 \mid -4 \mid 3) =$ _____

4) $(7 \mid -6 \mid -3) + (-8 \mid 6 \mid -6) =$ _____

5) $(5 \mid -5 \mid 6) - (-6 \mid -1 \mid -5) =$ _____

6) $(-3 \mid -8 \mid -4) + (6 \mid -4 \mid 2) =$ _____

7) $(-4 \mid 0 \mid -9) + (8 \mid -5 \mid -2) =$ _____

8) $(-2 \mid 6 \mid 5) - (8 \mid 7 \mid -6) =$ _____

9) $(2 \mid -8 \mid -3) - (4 \mid -2 \mid 7) =$ _____

10) $(-7 \mid -3 \mid 3) - (2 \mid 9 \mid 3) =$ _____

11) $4 \cdot (4 \mid 6 \mid 7) =$ _____

12) $(3 \mid -2 \mid 0) - (0 \mid -9 \mid 2) =$ _____

Lösungen: Vektoren addieren, subtrahieren und vervielfachen

Stufe 2: im Raum, auch Vielfache

1) $(-3 \mid 8 \mid 2) + (5 \mid -5 \mid 3) = (2 \mid 3 \mid 5)$

2) $(8 \mid -1 \mid 0) + (-3 \mid 2 \mid 0) = (5 \mid 1 \mid 0)$

3) $2 \cdot (8 \mid -4 \mid 3) = (16 \mid -8 \mid 6)$

4) $(7 \mid -6 \mid -3) + (-8 \mid 6 \mid -6) = (-1 \mid 0 \mid -9)$

5) $(5 \mid -5 \mid 6) - (-6 \mid -1 \mid -5) = (11 \mid -4 \mid 11)$

6) $(-3 \mid -8 \mid -4) + (6 \mid -4 \mid 2) = (3 \mid -12 \mid -2)$

7) $(-4 \mid 0 \mid -9) + (8 \mid -5 \mid -2) = (4 \mid -5 \mid -11)$

8) $(-2 \mid 6 \mid 5) - (8 \mid 7 \mid -6) = (-10 \mid -1 \mid 11)$

9) $(2 \mid -8 \mid -3) - (4 \mid -2 \mid 7) = (-2 \mid -6 \mid -10)$

10) $(-7 \mid -3 \mid 3) - (2 \mid 9 \mid 3) = (-9 \mid -12 \mid 0)$

11) $4 \cdot (4 \mid 6 \mid 7) = (16 \mid 24 \mid 28)$

12) $(3 \mid -2 \mid 0) - (0 \mid -9 \mid 2) = (3 \mid 7 \mid -2)$