

WORKSHEET

Parametrization of a Line

Unsolved with Answer key



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Parametrization of a Line

Q 1. Parametrize the line passing through $(1, 0)$ and $(4, 5)$.

Q 2. Find the parametric equations for the line extending through $(3, 3, 3)$ and $(6, 7, 9)$.

Q 3. Give $(2, -3, 5)$ and $(0, 2, 1)$, parametrize the line segment between them.

Q 4. Describe infinite line through $(1, 1)$ with direction vector $(3, 4)$.

Q 5. Find parametric equations for line through $(-3, -2, 5)$ with direction vector $(1, -2, 4)$.

Answer Key

Parametrization of a Line

1. Parametric equations are:

- $x(t) = 2t$
- $y(t) = -1 + 4t$

2. Parametric equations are:

- $x(t) = 1 + 3t$
- $y(t) = 2 - 4t$
- $z(t) = 5t$

3. Parametric equations are:

- $x(t) = 3 - 2t$
- $y(t) = t$
- $z(t) = 1 + 3t$

4. Parametric equations are:

- $x(t) = 2 + t$
- $y(t) = -1 - 3t$

5. Parametric equations are:

- $x(t) = -1 + 4t$
- $y(t) = 4 + 4t$
- where $t \in [0, 1]$.