Linear functions: coefficients, graphs and determination

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Worked example 1

Find the linear function through $(0, 2)$ and $(3, 8)$. Show the equations used to find k and b.

Guided attempt 2

Find the linear function through $(1, 1)$ and $(3, 5)$. Show the equations used to find k and b.

1. First point: $k + b = \square$.
2. Second point: $3k + b = \square$.
3. Subtract: $2k = \square$; then $k = \square$, $\quad b = 1 - \square$.

Prerequisite 3

Is the given relation a direct-proportion function? State k and b.

$$y = 3x$$

Prerequisite 4

For the given relation, find y when $x = 0$.

$$y = -2x + 4$$

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Independent practice 5

Find the x-intercept and explain why y is set to zero.

$$y = -3x + 6$$

Independent practice 6

Draw the graph of the given function. Mark the y-intercept and at least one more point.

$$y = 2x - 1$$



Use the stated conditions and the labelled scales.

Independent practice 7

Find the linear function through $(1, 3)$ and $(3, 1)$. Show the equations used to find k and b.

Independent practice 8

A linear function y=kx+3 passes through (2,7). Find k and check that the result is a linear function.

Exit question 9

Under this chapter’s definition, is y=5 a linear function with nonzero k? Classify it accurately.

$$y = 5$$

Exit question 10

Find the x-intercept and explain why y is set to zero.

$$y = 3x - 6$$