The equation of a line through a point

Exit ticket ANSWERS Name _____

1. The line $y = 4x + c$ passes through (2, 11). Find c.

$c = 3$

2. Find the equation of the line with gradient 2 that passes through (1, 5).

$y = 2x + 3$

3. Find the equation of the line with gradient −3 that passes through (2, 1).

$y = -3x + 7$

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1 **The line $y = 4x + c$ passes through (2, 11). Find c.**

$c = 3$

TESTS Finding c: the point put into y = mx + c and the equation solved

LOOK FOR

$c = 11$ the y value taken as c: only true when $x = 0$

$c = 19$ $11 = 8 + c$ solved by adding: $11 - 8 = 3$

FIX IT

The line $y = 5x + c$ passes through (2, 13). Find c.

$c = 3$

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2 **Find the equation of the line with gradient 2 that passes through (1, 5).**

$y = 2x + 3$

TESTS The line with a given gradient through a point

LOOK FOR

$y = 2x + 5$ the y value taken as c

$y = 2x - 3$ $5 = 2 + c$ solved as $2 - 5$

FIX IT

Find the equation of the line with gradient 3 that passes through (2, 10).

$y = 3x + 4$

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3 **Find the equation of the line with gradient −3 that passes through (2, 1).**

$y = -3x + 7$

TESTS The whole method with a negative gradient

LOOK FOR

$y = -3x - 5$ $1 = -6 + c$ solved as $1 - 6$: add 6 to both sides, $c = 7$

$y = -3x + 1$ the y value taken as c

FIX IT

Find the equation of the line with gradient −2 that passes through (4, 3).

$y = -2x + 11$