The equation of a line through two points

Exit ticket ANSWERS Name _____

1. Find the gradient of the line through (2, 3) and (5, 15).

4

2. Find the gradient of the line through (1, 8) and (3, 2).

−3

3. Find the equation of the line through (1, 4) and (3, 10).

$y = 3x + 1$

The Maths Habit

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Exit ticket The equation of a line through two points

1 **Find the gradient of the line through (2, 3) and (5, 15).**

4

TESTS The gradient from two points: the change in y over the change in x

LOOK FOR

$\frac{1}{4}$ the change in x over the change in y

$\frac{18}{7}$ the coordinates added, not subtracted

FIX IT

Find the gradient of the line through (1, 3) and (4, 18). *5*

2 **Find the gradient of the line through (1, 8) and (3, 2).**

−3

TESTS A negative gradient from two points

LOOK FOR

3 the subtractions in opposite orders: 8 − 2 over 3 − 1. Take both from the same point

$-\frac{1}{3}$ the change in x over the change in y

FIX IT

Find the gradient of the line through (2, 9) and (4, 1). *−4*

3 **Find the equation of the line through (1, 4) and (3, 10).**

y = 3x + 1

TESTS The whole method: the gradient, then c from one point

LOOK FOR

y = 3x + 4 the y value of a point taken as c

y = 3x + 10 the y value of a point taken as c

FIX IT

Find the equation of the line through (2, 5) and (4, 13). *y = 4x − 3*