Answer key

The method: Equation from two points

Find the slope first. Then use one point to find b.

Through (4, −24) and (5, −29): $y = -5x - 4$

$\frac{-29 - (-24)}{5 - 4} = \frac{-5}{1} = -5$ change in y over change in x

$-24 = (-5)(4) + b$ put m = −5 and the point (4, −24) into y = mx + b

$-24 = -20 + b$

$b = -4$ add 20 on both sides

$y = -5x - 4$

Problems 1 and 2 worked out · Version 0A

Through (−4, 14) and (−6, 24): $y = -5x - 6$

$\frac{24 - 14}{-6 - (-4)} = \frac{10}{-2} = -5$ change in y over change in x

$14 = (-5)(-4) + b$ put m = −5 and the point (−4, 14) into y = mx + b

$14 = 20 + b$

$b = -6$ subtract 20 on both sides

$y = -5x - 6$

Through (−6, 2) and (−4, 4): $y = x + 8$

$\frac{4 - 2}{-4 - (-6)} = \frac{2}{2} = 1$ change in y over change in x

$2 = 1(-6) + b$ put m = 1 and the point (−6, 2) into y = mx + b

$2 = -6 + b$

$b = 8$ add 6 on both sides

$y = x + 8$

Equation from two points · Version 0A

1) $y = -5x - 6$ 2) $y = x + 8$ 3) $y = x - 5$
4) $y = -x + 6$ 5) $y = -x + 4$ 6) $y = 3x - 7$
7) $y = -5x - 3$ 8) $y = x - 7$ 9) $y = x$