
ALGEBRA: EQUATIONS OF PARALLEL LINES**Best Guess Mastery Worksheet (Target Grade 5/6)****I Do**

The straight line L_1 has the equation $3y - 2x = 12$.

The straight line L_2 is parallel to L_1 and passes through the point $(0, 5)$.

Find the equation of L_2 .

Give your answer in the form $y = mx + c$.

Equation:

We Do

The straight line L_1 has the equation $4y + 3x = 20$.

The straight line L_2 is parallel to L_1 and passes through the point $(0, -2)$.

Find the equation of L_2 .

Give your answer in the form $y = mx + c$.

Equation:

ALGEBRA: EQUATIONS OF PARALLEL LINES**Best Guess Mastery Worksheet (Target Grade 5/6)****You Do 1**

The straight line L_1 has the equation $5y - x = 15$.

The straight line L_2 is parallel to L_1 and passes through the point $(0, 8)$.

Find the equation of L_2 .

Give your answer in the form $y = mx + c$.

Equation:

You Do 2

The straight line L_1 has the equation $2y + 7x = 14$.

The straight line L_2 is parallel to L_1 and passes through the point $(0, -6)$.

Find the equation of L_2 .

Give your answer in the form $y = mx + c$.

Equation:

ALGEBRA: PARALLEL LINES (COORDINATE GEOMETRY)**Best Guess Mastery Worksheet (Target Grade 6/7)****Challenge 1**

The straight line L_1 has the equation $2y - 5x = 10$.

The straight line L_2 is parallel to L_1 and passes through the point (4, 15).

Find the equation of L_2 .

Give your answer in the form $y = mx + c$.

Equation:

Challenge 2

The straight line L_1 passes through the points $A(-2, 5)$ and $B(4, 17)$.

The straight line L_2 is parallel to L_1 and passes through the point (5, 7).

Find the equation of L_2 .

Give your answer in the form $ax + by + c = 0$, where a , b , and c are integers.

Equation:

Answers & Worked Solutions

I Do:

1. Rearrange L1 to find gradient: $3y = 2x + 12 \rightarrow y = (2/3)x + 4$. Gradient $m = 2/3$.
2. L2 is parallel, so its gradient is also $2/3$.
3. L2 passes through $(0, 5)$, which is the y-intercept, so $c = 5$.
4. Equation: $y = \frac{2}{3}x + 5$

We Do:

1. Rearrange L1 to find gradient: $4y = -3x + 20 \rightarrow y = (-3/4)x + 5$. Gradient $m = -3/4$.
2. L2 is parallel, so its gradient is also $-3/4$.
3. L2 passes through $(0, -2)$, so y-intercept $c = -2$.
4. Equation: $y = -\frac{3}{4}x - 2$

You Do 1:

1. Rearrange L1: $5y = x + 15 \rightarrow y = (1/5)x + 3$. Gradient $m = 1/5$.
2. L2 passes through $(0, 8)$, so $c = 8$.
3. Equation: $y = \frac{1}{5}x + 8$

You Do 2:

1. Rearrange L1: $2y = -7x + 14 \rightarrow y = (-7/2)x + 7$. Gradient $m = -7/2$.
2. L2 passes through $(0, -6)$, so $c = -6$.
3. Equation: $y = -\frac{7}{2}x - 6$ (or $-3.5x - 6$)

Challenge 1:

1. Rearrange L1: $2y = 5x + 10 \rightarrow y = (5/2)x + 5$. Gradient $m = 5/2$ (or 2.5).
2. L2 has gradient $5/2$ and passes through $(4, 15)$. Use $y = mx + c$.
3. $15 = (5/2)(4) + c \rightarrow 15 = 10 + c \rightarrow c = 5$.
4. Equation: $y = \frac{5}{2}x + 5$ (or $2.5x + 5$)

Challenge 2:

1. Find gradient of L1: $m = (y_2 - y_1) / (x_2 - x_1) = (17 - 5) / (4 - -2) = 12 / 6 = 2$.
2. L2 is parallel, so its gradient is 2. It passes through $(5, 7)$.
3. Use $y - y_1 = m(x - x_1)$: $y - 7 = 2(x - 5) \rightarrow y - 7 = 2x - 10 \rightarrow y = 2x - 3$.
4. Rearrange to $ax + by + c = 0$: $2x - y - 3 = 0$ (or $y - 2x + 3 = 0$)