

Grade 8 algebra test

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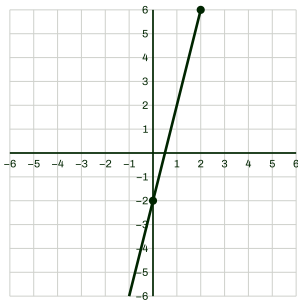
Answer each question. Show your work.

1 $g(x) = 6x + 11$. What is $g(8)$?	2 What is the slope of the line through $(8, -2)$ and $(3, -7)$?
3 Solve the system $3x + 2y = -10$ and $x + 4y = 10$. Give your answer as (x, y).	4 Solve the system $-4x - 4y = -24$ and $3x + 2y = 13$. Give your answer as (x, y).
5 Write the equation of the line through $(6, 3)$ and $(2, 1)$. Give your answer in the form $y = mx + b$.	6 The geometric sequence $32, -16, 8, -4$ continues in the same way. What is its common ratio?
7 A school play sold 121 tickets for \$974 in all. Adult tickets cost \$10 each and child tickets cost \$6 each. How many adult tickets were sold?	8 Leo has \$95 and saves \$8 each week. Write an equation for the dollars y that Leo has after x weeks. Give your answer in the form $y = mx + b$.

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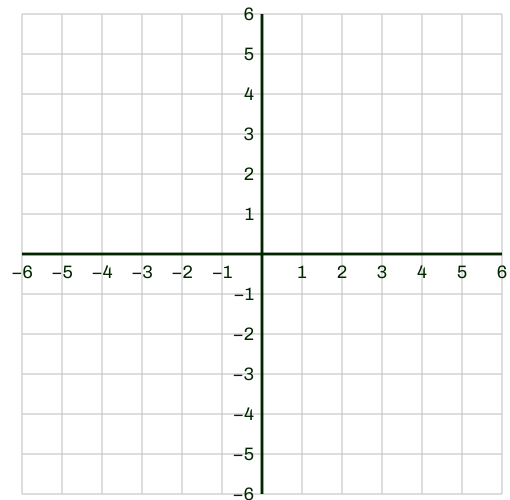
Answer each question. Show your work.

- 9** Write the equation of this line. Give your answer in the form $y = mx + b$.



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- 10** Graph the line $y = x + 1$ on the coordinate plane below.



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- 11** Function A is $y = 3x + 2$. Function B is shown in the table.

x: 1, 2, 3, 4

y: 3, 6, 9, 12

Which function has the greater rate of change?

☐ Function B ☐ Function A

☐ They are the same

12 Is $(-4, -4)$ a solution of the system $y = 3x + 8$ and $3x + y = -16$?

☐ No, it makes neither one true

☐ No, it makes only the second one true

☐ Yes, it makes both equations true

☐ No, it makes only the first one true

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1 59

4 (1, 5)

7 62

10

2 1

5 $y = \frac{1}{2}x$

8 $y = 8x + 95$

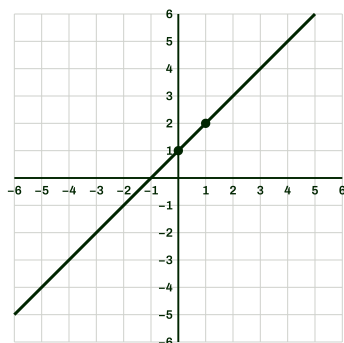
11 They are the same

3 (-6, 4)

6 $-\frac{1}{2}$

9 $y = 4x - 2$

12 Yes, it makes both equations true



A straight line through (0, 1) on the y-axis and (1, 2), which is up 1 and right 1 from it, drawn across the grid. It also passes through (-1, 0). A line that goes down from left to right is the reflected line and does not count.