

Grade 7 algebra test

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Answer each question. Show your work.

1 Solve $9x - 7 \leq 29$.	2 Solve $-2x > 6$.
3 Find the value of $5x^2$ when $x = -6$.	4 Write $-7(8 - x)$ without parentheses.
5 Solve for x: $x - \frac{1}{2} = \frac{1}{12}$	6 Write $(7x - 1) - (6x - 7)$ with like terms collected.
7 Write $18x - 15$ as a product, taking out the greatest common factor.	8 The sequence 35, 45, 55, 65, 75 continues in the same way. What is the common difference?
9 At a bowling alley, shoes cost \$4 and each game costs \$6. Ben paid \$28 in all. How many games did Ben play?	10 Ivy has \$65 to spend on movie tickets that cost \$10 each. Ivy solves $10t \leq 65$ and gets $t \leq 6.5$. Which values of t make sense in this situation? ☐ Whole numbers from 0 to 6 ☐ Only 6.5 ☐ Every number from 0 to 6.5 ☐ Whole numbers from 0 to 7

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Answer each question. Show your work.

11

Ana solved an equation in three lines.

Line 1: $x \div 6 + 5 = 9$

Line 2: $x \div 6 = 4$

Line 3: $x = 24$

What did Ana do to both sides to get from line 1 to line 2?

☐ Multiply both sides by 6

☐ Subtract 5 from both sides

☐ Divide both sides by 6

☐ Add 5 to both sides

12

6 pens cost \$24. On the graph, x is the number of pens and y is the cost in dollars. Plot the point for 1 pen.

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1	$x \leq 4$	2	$x < -3$	3	180
4	$-56 + 7x$	5	$\frac{7}{12}$	6	$x + 6$
7	$3(6x - 5)$	8	10	9	4
10	Whole numbers from 0 to 6	11	Subtract 5 from both sides	12	1,4